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AUGUST 2, 1924.

Vol. CI.



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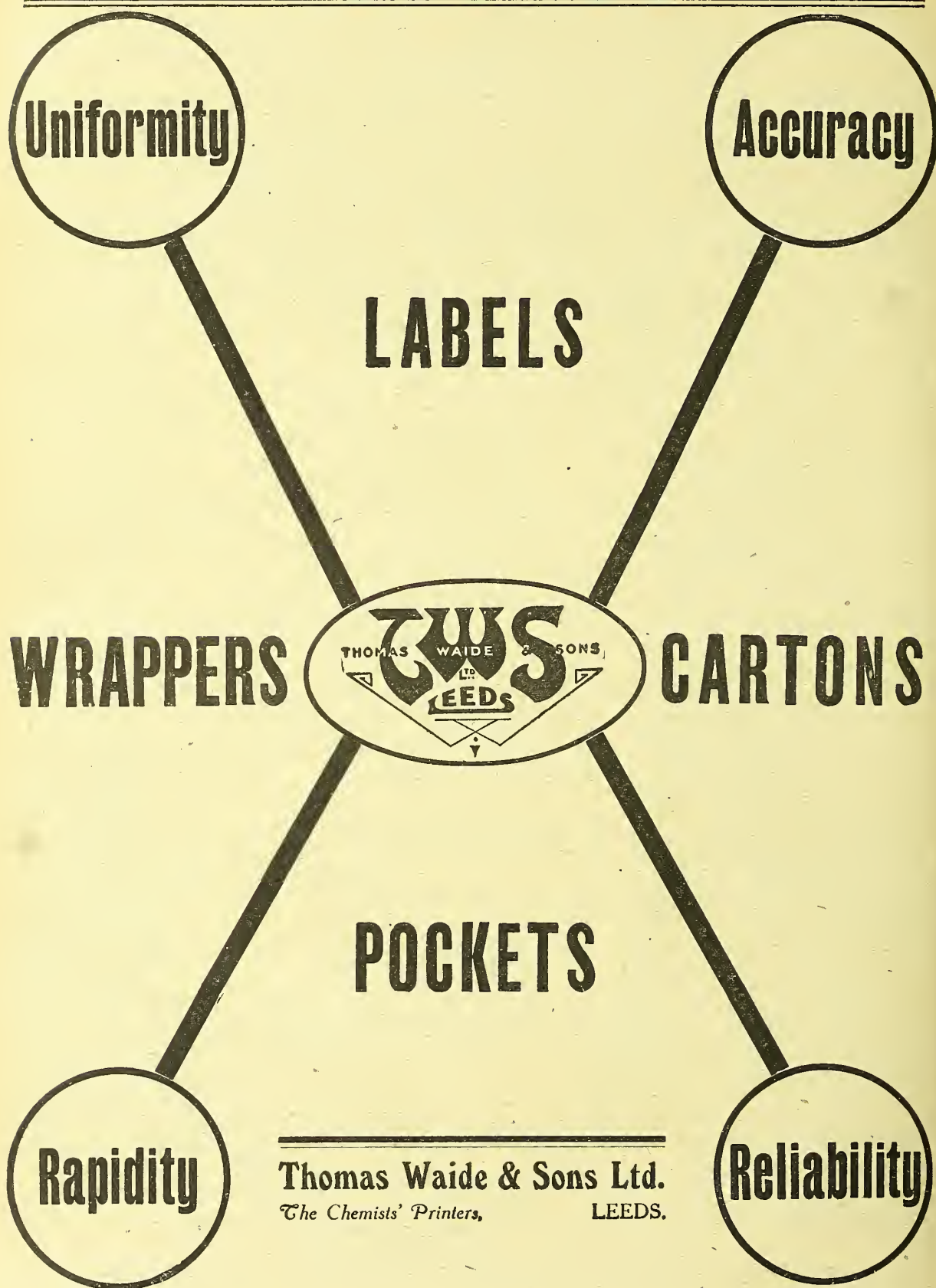
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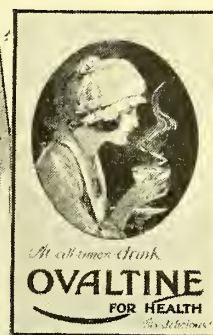
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AT THE

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We are having printed a very fine 3 panel cut-out for window show, in addition to smaller showcards and counter literature.

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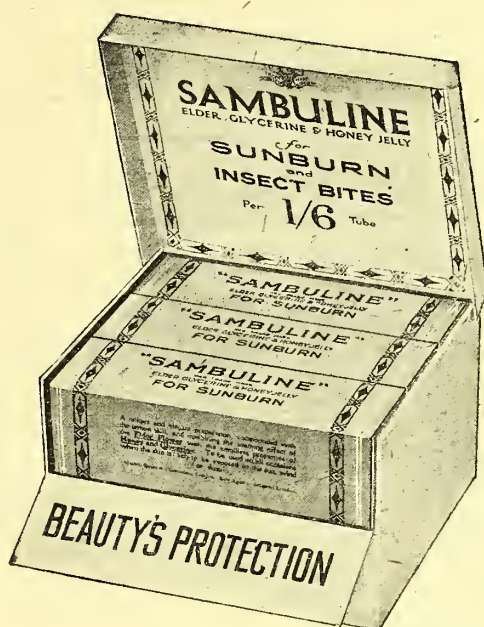
Sambuline is prepared from the fresh juice of the Elderberry Flower in combination with pure Glycerine and Honey.

It has a soothing and healing effect, rapidly cooling the burning hot skin, and preventing unsightly peeling or painful blistering. Neither sticky nor greasy it is nicely perfumed, and will not stain the daintiest fabric. Sambuline protects the skin from all insect bites.

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SUMMER LINE  
which should  
have wonderful  
SALES**



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Write to us for it. An attractive display for counter and window, it should prove of great assistance in securing sales.

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No. 1, 1/-	No. 2, 1/9
No. 3, 2/6	No. 4, 3/9
Bath sizes, No. 4R, 5/-	
" " No. 5, 7/6	



# Maw's Page

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Brilliantine is a good line for the pharmacist. Being practically indispensable to the toilet and needing replacing frequently, it has a constant and considerable demand. The pharmacist has to consider the competition of the hairdresser in this line, and it is essential that he sells a brilliantine which is far and away better than the average.

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Parex Brilliantine is presented in a tasteful manner—the outers (illustrated here) are easy to display on counter or window—it retails at a popular price—AND IT CARRIES 100 PER CENT. PROFIT FOR THE PHARMACIST.

PERFUMES :—VIOLET OR JASMINE.

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#### PAREx BRILLIANTINE.

	Wholesale	Retail
Liquid (Small) ..	5/3 dozen	10½d. each
„ (Medium) ..	9/- „	1/6 „
„ (Large) ..	15/- „	2/6 „
Crystallised ..	7/6 „	1/3 „

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# Hu-mag-so-lan is the one hair food you can recommend

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**Local Advertising in  
support of Dealers.**

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bonus on window  
displays, etc.

**T**HE fact that already over a thousand doctors and specialists have tried and endorsed Humagsolan as a scientific and successful restorative in all cases of hair trouble is enough to give you confidence in recommending it to your customers.

It is the only scientific hair food that enriches the blood in the elements which make the hair grow and so is able to reach the minute blood vessels at the base of each hair root in the scalp. It can thus overcome all hair troubles such as falling or fading hair, dryness, scurf and dandruff, alopecia or patchy baldness and is successful in cases of complete baldness unless the hair roots themselves are dead.

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BLADES**

(U.S.A. AND CANADIAN.)

WRITE FOR DETAILS IMMEDIATELY TO

**WARDS OF WARRINGTON**

The Largest Gillette Suppliers in Great Britain.

Assist British industry by recommending the  
**'WATTS' Sheffield-made Safety Razor Blade,**  
the blade of super-keenness.

A counter display will help.

A user writes: "Can't understand people buying foreign blades when such as yours are obtainable."



**12 Perfect Blades  
in Every Dozen**

For Gillette-Type and  
Autostrop-type holders

**3/6**  
per doz.  
allowing  
**50% PROFIT**  
on cost for  
the dealer.

Sole Manufacturers: **JOHN WATTS,**  
Dept. 3, LAMBERT WORKS, SHEFFIELD.  
London: 24 REDCROSS ST., E.C.1.  
Established over 150 years.



**WHITE  
AND ALL  
COLOURS**

**6 Crystal Palace  
Park Road  
SYDENHAM, LONDON**

## SPECIAL SEASONABLE LINE OF HIGH-CLASS FRENCH GABILLA TOILET SOAPS

Beautifully packed, each Tablet in a fancy coloured cretonne bag, in fashionable colours and three such tablets in a fancy covered box. Specially suitable for travelling and seaside use.

At 16/6 per dozen boxes. Post Free.

We can supply Tooth Brushes, Shaving Brushes, Hair Brushes, and all leading makes of Safety Razors and Blades at lowest quotations.

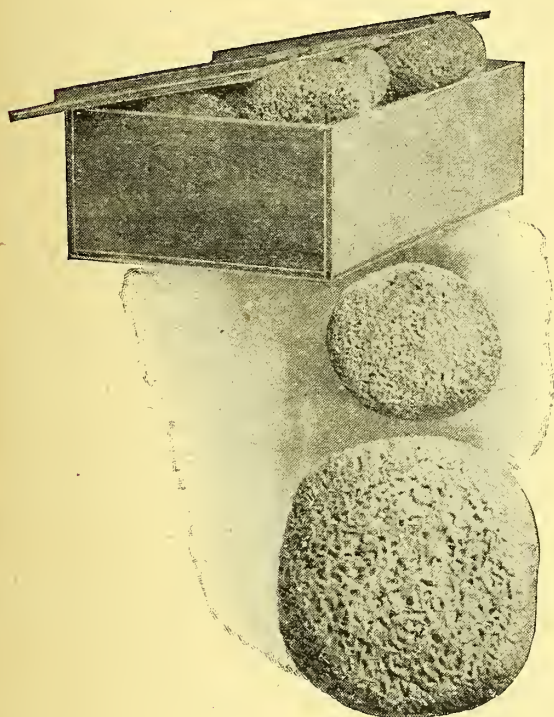
Let us know your requirements. We can supply them.  
Terms: Nett Cash with Order or goods sent against approved refs.

**L. FRANKENBERG,** 15 Stoney Lane, Houndsditch,  
LONDON, E.1.

Phone: Avenue 1170.



# WE SPECIALISE IN SPONGES!



**T**HE handling of Sponges is a business of its own, and yet will make or mar a pharmacist's reputation.

Why?

Because, firstly, a good sponge runs into money, and secondly, everybody is interested in it—mother chooses it, the family use it, and father pays for it.

But sponge selection requires much time and careful discrimination and the busy pharmacist is well advised in placing himself in the hands of the Sponge Specialist.

*We specialise in Sponges.*

Such confidence have we in our selection that we undertake to exchange any sponge not considered to be of sterling value.

We particularly recommend our  
£5 10 assortment ranging  
from 6d. to 21s. each.  
which we are offering at £5,  
:: less 2½%, cases free. ::

# EVANS

EVANS SONS LESCHER & WEBB, LTD.  
LIVERPOOL New York LONDON

# TAKE ADVANTAGE OF THE Great Gillette Boom!

*Astounding  
Value*

**in Brand New Gillette Goods** *direct from the Factory in* **U.S.A.!**

TO every purchaser of one box of Gillette Blades, we will give

**ABSOLUTELY FREE OF CHARGE** one five-shilling Gillette Razor.

OUR price for one Box of Genuine U.S.A. Gillette Blades is  $3\frac{1}{8}$  less  $2\frac{1}{2}\%$  discount for prompt cash, together with one bonus Gillette Razor.

THE boxes, by the way, contain either TEN packets of TEN blades, or TWENTY packets of FIVE blades—as desired.

THE blades sell at  $\frac{4}{6}$  per packet of ten or  $\frac{2}{3}$  per packet of five, so that each box of blades realises £2-5-0; add to this the 5/- bonus razor, making total of 50/-.

**50/- FOR 30/11**

**This  
Gold-  
Plated  
Razor**



**Free**

Beacon Gillette.

Dark blue leatherette case, containing gold-plated razor, and **TWO BLADES (FOUR SHAVING EDGES)** in gold-plated chased blade box.

**Obtainable from:**

OSBORNE, GARRETT & CO., Ltd.,  
London, Birmingham and Glasgow.  
SANGERS, 258 Euston Road, London, N.W.1.  
CROWDEN & KEEVES, Ltd.,  
62 Southwark Street, London, S.E.1.  
H. M. KLARNETT, 5 Houndsditch, E.1.  
W. E. BINGHAM & CO., 47 Shudehill, Manchester.

MAW, SON & SONS, Ltd.,  
7 Aldersgate Street, E.C.1.  
M. STECKLYN & SONS, 17 Houndsditch, E.1.  
RYAN WHITE & CO., Ltd.,  
31 High Street, Southampton.  
BARCLAY & SONS, Ltd.,  
95 Farringdon Street, E.C.4.

**WHOLESALE ENQUIRIES: OGEE SELLING SERVICE LTD., 51-54, FRITH STREET, W.1.**



# Repeat orders are for gross lots—

Pharmacists who bought this at the Exhibition are enthusiastic

Come, have your share of the success.



## “Dispello” Catarrh Snuff

is one of the big successes of the year.

It is a most efficacious remedy for Colds, Nasal and Bronchial Catarrh, and is particularly successful in preventing

## HAY FEVER

THE display is unique, and so contrived that the unsightliness of a part-sold box is avoided. Three, six, nine or a full dozen daintily designed and cellophaned boxes can be displayed and yet kept clean—to see one is to buy one, and to use the snuff is so pleasant that a box readily finds its way into the bag or waistcoat pocket, and is certain to be replaced when empty.

Per dozen .... 4/6      Per gross .... 48/-

Probably you would like a sample. Will you write?

Special packings for Export.

Prices on application.

# AYRTON, SAUNDERS & CO., LTD.

34 Hanover Street



LIVERPOOL

# ESSENCES & SYNTHETICS, LTD.

4 Carlisle Avenue, Fenchurch Street

Telegrams:  
"ESSYNTHET, LONDON."

LONDON, E.C.3

Telephone:  
AVENUE 1419.

WILLIAM C. SLATER, Managing Director.

## Oil Sweet Orange, Californian

### ESSYNTHET BRAND

We are the SOLE European Importers of this Brand

*We shall be pleased to send samples.*

## TOILET **KALKA**<sup>REGD.</sup> SOAP

This is not a mere bread-and-butter line, but will bring you REPEAT BUSINESS

A SIX-OUNCE OCTAGONAL TABLET, QUADRUPLE  
MILLED, HAVING A DELICATE & PERSISTENT ODOUR

Carriage paid in Free Cases for - - - : - - - 54/- gross.

NO MAKER'S NAME ON TABLET OR BOX.

R. F. WHITE & CO., LTD., (The Non-Combine House) 34, VICTORIA ST., S.W.1.

## DODGE & OLCOTT CO.,

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THE "D & O" BRAND

*is the "Standard of Quality" for*

OILS of BAY, CEDARWOOD, PATCHOULI, PEPPERMINT,  
SASSAFRAS, ETC.

BALSAMS of Copaiba, Peru, Tolu.  
TONKA BEANS, Angosturas.

Phone—  
ROYAL 3843.

Telegrams—  
"EGDARF, FEN, LONDON."





# OPOPONAX

## "DISTOL"



**I**N common with the other forty-five "Distol" Ottos, an ounce of Opoponax "Distol," costing 7/6, makes from forty to eighty ounces of choice perfume by simply adding S.V.R. and Aq. Dest. without filtering, blending, tinting, distillation or any other time-absorbing process. The "Distol" routine is so quick and easy that Pharmacists usually mix for immediate requirements only, and so avoid locking up capital in big stocks of S.V.R.

☐ Opoponax "Distol" is also suitable for perfuming face creams, shampoo powders, face powders, &c.

☐ Sample set of perfumes made from any six "Distols" will be sent to any Pharmacist on request.

**THOMAS KERFOOT & CO LTD**  
**BARDSLEY VALE, LANCASHIRE,**  
 & Bardsley House, London, N.1  
 ESTABLISHED 1797.

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We solicit a Trial Order for our  
Watch-Shape Flask Series of

## EAU DE COLOGNE AND LAVENDER WATER

They are Ready Sellers and bring  
**GOOD PROFITS** to the **RETAILER** and  
**GOOD VALUE** to the **CUSTOMER**.



Prices:

EAU DE COLOGNE	LAVENDER WATER
½ oz. per doz. 10/-	½ oz. per doz. 11/3
1 " " 15/9	1 " " 18/6
2 " " 28/6	2 " " 34/-

We are actual distillers of Oils of  
Neroli, Lavender, Bergamot, &c.,  
and our prices are based on the  
manufacturing costs of the oils.

**SPURWAY ET CIE.**  
LIMITED.

89 GREAT EASTERN ST., LONDON, E.C.2

Telegrams: "Neroli, London."  
Telephone: Bishopsgate 1372.

Factories & Distilleries: Cannes-Grasse, Riviera.  
Technical Laboratories: Paris.

NEW YORK. LEIPZIG. KINGSTON (ONTARIO).

## DEARBORN (1923) LTD.

37 Gray's Inn Road, London, W.C.1

### Toilet Specialties.

	Price per doz.	Selling Price to Retailer P.A.T.A.
<b>PILENTA SOAP</b> ...	10/-	1/-
A complexion soap.		
<b>PROLACTUM</b> ...	10/-	1/-
For the lips.		
<b>PARSIDIUM JELLY</b> ...	10/-	1/-
For wrinkles.		
<b>ALLACITE OF ORANGE</b>		
<b>BLOSSOM</b> ...	22/6	2/6
A dressing cream.		
<b>BORANIUM</b> ...	22/6	2/6
A hair tonic.		
<b>CLEMINITE</b> ...	22/6	2/6
For a face lotion.		
<b>COLLIANDUM</b> ...	22/6	2/6
For a face tint.		
<b>PERGOL</b> ...	22/6	2/6
A deodorant.		
<b>TEKKO PASTE</b> ...	22/6	2/6
Camphor cream.		
<b>STALLAX</b> ...	22/6	2/6
For a shampoo.		
<b>JETTALINE</b> ...	31/6	3/6
For clearing the skin.		
<b>PHEMINOL</b> ...	36/-	4/-
A depilatory.		
<b>MENNALINE</b> ...	36/-	4/-
For the eyelashes.		
<b>MERCOLIZED WAX</b> ...	18/- 31/6	2/- 3/6
A face cream.		
<b>STYMOL</b> ...	36/-	4/-
For oily complexions and blackheads.		
<b>SILMERINE</b> ...	22/6	2/6
Hair-curling fluid.		
<b>BARSYDE</b> ...	22/6	2/6
Dandruff eradicator.		
<b>TAMMALITE</b> ...	22/6	2/6
For grey and faded hair.		
<b>LIQUID PERGOL</b> ...	31/6	3/6
To check excessive perspiration locally.		
<b>BICROLIUM</b> ...	22/6	2/6
For whitening the hands.		
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For figure development.		

### The Products of

**Messrs. PARKER, BELMONT & CO.**

<b>CLYNOL BERRIES</b> ...	36/-	4/-
For obesity.	58/6	6/6
<b>SOFT PALERIUM</b> ...	45/-	5/-
For wrinkles.		
<b>LIQUID NAIL POLISH</b> ...	10/-	1/-
Brilliant and lasting.		

Stocked by ALL Wholesale Houses.

### COLONIAL DEPÔTS AND AGENCIES.

**Australia:** ALL WHOLESALE, & DEARBORN (Australia), Ltd., Grace House, Clarence Street, Sydney.  
**South Africa:** LENNON Ltd., Cape Town, etc.  
**SIVE BROS. & KARNOVSKY,** Johannesburg.  
**India:** FRAMJEE & SON, Bombay.  
**A. L. CHOUDRY,** Calcutta.  
**New Zealand:** SHARLAND & CO., Auckland and Wellington.  
**South America:** DEARBORN (South America) Ltd., Calla Salta 264, Buenos Aires.  
**Straits Settlements & Federated Malay States:** MEDICAL HALL, Ltd., Singapore.



ESTAB. 1777.

ESTAB. 1777.

# BRISTOW'S

*Original*

## BORACIC OATMEAL SOAP

HAS STOOD THE TEST FOR A QUARTER OF A CENTURY

THE "CHEMIST'S OWN" SOAP

33/- less 5% Sells at 4d. with full window display

*BUILD UP YOUR SOAP TRADE  
WITH A GENUINE CHEMIST'S LINE*

T. F. BRISTOW &amp; CO. Ltd., St. James' Walk, Clerkenwell, E.C.

## BRISTOW'S MEDICATED ICHTHYOL SKIN SOAP

The big tablet with the  
big profit sells and repeats  
at 1/-

**90/- Gross, less 5%****FULL SHOW MATERIAL**

T. F. BRISTOW & CO. Ltd.  
St. James' Walk, Clerkenwell, E.C.



## THE CHEMIST'S OWN LINE

# SUMMER FRAGRANCES



The Highest Grade **2/6** Floral Perfumes  
**FOR QUICK SALES**  
 will be specially advertised to the Public during  
**AUGUST**

These new series comprising:

MINOA	SWEET PEA
LILALBA	MIMOSA ILEX
CYCLAMEN NEIGE	JASMIN FLAVA
VIOLETTE REGIS	ROSE SOLEIL
MUGUET MAYALIS	GILLET FRANGE
(Lily of the Valley)	(Carnation)

are neatly presented in cut glass bottles.

## ORDER AT ONCE

Wholesale 20/- per doz. Retail 2/6 per bottle

**ADVERTISING WILL SELL  
 THE GOODS FOR YOU**

**Parfumerie L. T. PIVER (Paris)**

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Telephone No.: Regent 5260.

*Depot for Irish Free State:*

**G. J. DAVIES, 27 Eustace Street, DUBLIN.**

Keep  
**LITTO**  
 REGD.  
 to the fore  
 — it pays

Our trade terms are exceptionally attractive  
 —all "LITTO" preparations show you  
 100% profit.

—it pleases

because it carries out the claims made  
 for it, and, therefore, brings your  
 customers back again.

—it sells

because we are advertising it and making  
 its merits known to a wider public.

May we send you particulars and show  
 matter? P.A.T.A.

**"LITTO" Laboratories, 2 NEWINGTON GREEN,  
 LONDON, N.1.**



U.S.A., 10's or 5's, 28/6 box; 3 boxes 83/9.  
 U.S.A., 12's, 31/8 box.  
 Canadian, 6's or 12's, 27/- box; 3 boxes 79/6.  
 New and Old type Gillette Razors at reduced prices.  
 VALET "99" Model, 22/- doz.; 3 doz. 61/6.  
 Blades 36/- box. 2/6 Strops, 20/- doz.  
 "C" Model 6/-, at 48/- doz.  
 EVER READY Blades, 29/6 gross with 24 free  
 Razors; 1/- gross 15/- with 12 free Razors.  
 Anti-Glare Imitation Tortoiseshell Glasses, 22/- doz.  
*All Goods post paid. Prices Net Cash.*

**ALFRED FRANKS & CO. 23 Bartlett's Buildings  
 LONDON, E.C. —**

**E. J. H. ATTWOOD**

*Manufacturer of the*

**"WEJA"**

**Tooth & Shaving  
 Brushes**

*solicits your enquiries to*

**130 Chatsworth Rd., Clapton, London, E.5.**





## Display this NEW PEARS LINE

Here is a new Pears Line—Vanishing Cream—that is going to sell on sheer superiority.

Its silky texture, its subtle arresting perfume—sustained for hours after use—the incomparable coolness and comfort it yields—these things will make its appeal irresistible to women everywhere.

Tastefully and daintily presented it makes an attractive window display when arranged on the stand illustrated above and sent free with each order. With Toilet Creams in constant demand at this season of the year, you will be well advised to order a trial dozen immediately.

# PEARS

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It pays you to sell and push

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Sample 3d. - - - 21/- per gross.

Jars 1/3 - - - 9/6 per dozen.

from EVANS, WOOLLEY, MAY ROBERTS, or  
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Phone : LATCHMERE 4794.

Telephone: Axminster 5.

Telegrams: "Coate, Axminster."

## COATE & CO. (Axminster) Ltd.

The London Brush Works, Axminster, Devon.

Estab. 1847.

*Manufacturers of Super British Brushes*

Our Special "PROPHYLACTIC" Tooth Brushes—

3 row Hard, Medium, Soft, Yellow Hair @	...	...	...	16/-	per dozen
4 " " " " " " " " " "	...	...	...	18/-	" "

Orders for one gross supplied in Cartons with customer's name and address free.  
Every Brush Guaranteed. British made by British Labour. Send for our present list of prices.

# FIRST

WE WOULD ADVISE YOU TO  
BE PREPARED TO MEET THE  
DEMAND FOR STERILIZED FIRST

# AID

DRESSINGS, ALL FACTORIES  
AND WORKSHOPS MUST CON-  
TINUALLY REPLENISH THEIR  
OUTFITS AS THE

# DRESSINGS

ARE USED. PRICE LIST ON  
APPLICATION TO

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MANCHESTER and GLASGOW

36 Chapel St., Victoria Bridge. 49 Jamaica Street.

Telegrams - - - "Aybelim, Finsquare, London."  
'Phones - Clerkenwell 1347, 1348, 1349 (Pte. Exchange).

## THE "JARASO" Personal Weighing Machine

British Patent No. 23493/1910

Weighs from 1 lb. to 20 stone.  
The weight is reflected auto-  
matically in the mirror.

SIZE 11 × 7½ × 8 inches.

WEIGHT 19 lbs.

RETAIL PRICE REDUCED TO

# 45/- each

throughout Great Britain

Liberal terms to Chemists,  
Stores, Wholesale  
Houses and  
Shippers, for re-sale  
in Great Britain,  
Ireland and the  
British Colonies only.



All particulars from :

For Men, Women, or Children.

## ALBERT C. SHOPPEE, LTD.

(SOLE LICENSEES)

Belmont Street, Chalk Farm, LONDON, N.W. 1



## Still going up!

Anzora Sales are still on the upward trend, which is conclusive proof that Anzora is finding new users every day. Don't disappoint a new customer by having depleted stocks.



### TRADE TERMS

Anzora Cream (for greasy scalps), and Anzora Viola (for dry scalps), 12/- doz., retail at 18/-; 20/- doz., retail at 30/-. Obtainable from all wholesalers, together with showcards and cut-outs.

We wish to draw Visitors' attention to our EXHIBIT No. A11B in the Chemical Section of the Palace of Industry, BRITISH EMPIRE EXHIBITION.

# ANZORA

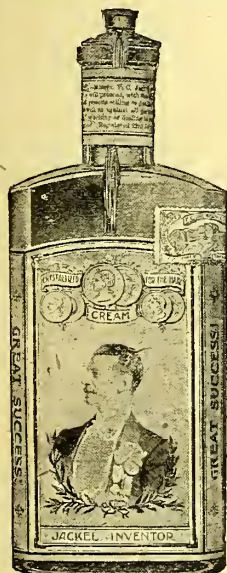
## MASTERS THE HAIR

Anzora Perfumery Co., Ltd., Willesden Lane, London, N.W.6.

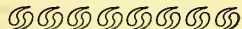
## "Jackel's Cream"

(without Grease)  
for THE HAIR

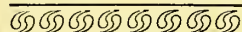
Sold Everywhere  
Established 1883.



CRYSTALLISED  
7 oz. CREAM 10 oz.  
Trade Mark attached to each bottle.



"Jackel's Cream" fixes the hair in any desired position; is unexcelled as a dressing and does not soil the headwear. It removes Scurf and Dandruff, keeps the scalp healthy, and promotes the natural growth of the hair while maintaining its softness and brilliancy.



Prices for Wholesale and Export Houses on application.

Jackel et Cie (of Paris)  
Ltd.

Sauchiehall Street,  
GLASGOW.

# Price's Old English Lavender Soap

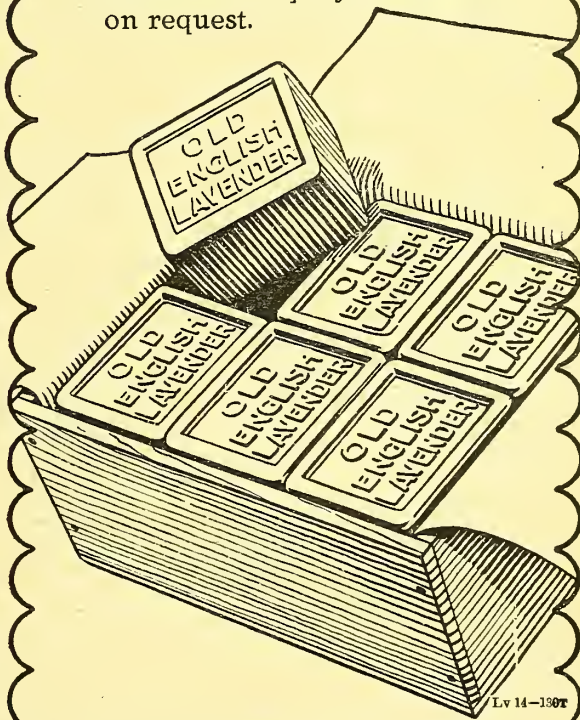
*Biggest selling line of its class*

Price's Old English Lavender Soap is the biggest selling line of its class.

Price's own special process ensures that the delicate lavender fragrance is retained by the tablet to the last wafer.

Link up with our wide-spread publicity and reap the benefits of a greater turnover.

Excellent display material on request.



PRICE'S SOAP CO. LTD: LEVER HOUSE, BLACKFRIARS, E.C. 4



# ATKINSON & BARKER'S INFANTS' PRESERVATIVE

THE BEST AND SAFEST INFANTS'  
MEDICINE OF OVER 120 YEARS' STANDING.

Prices and Terms on application to R. BARKER & SON, Ltd.  
13 Wesley St., C-on-M., MANCHESTER.

**DOES  
NOT  
CONTAIN  
any  
SCHEDULED  
POISON.**

## Dr. Allinson's Food Preparations

FOR ALL AGES AND CONDITIONS OF HEALTH AT FIRM AND  
PROTECTED PRICES.

Food for Babies, Prepared Barley,  
N. F. Cocoa, Biscuits, Wholemeal, &c.

See Trade Mark "T. R. Allinson" on all our goods—None Genuine Without.

### SPECIAL NOTICE.

We issue a list of WHOLESALE HOUSES who keep above in  
stock, if for any reason you have difficulty in obtaining supplies, please  
send postcard direct to us, and a list will be sent to you by return.

NATURAL FOOD COMPANY, Ltd.,  
Cambridge Road, Bethnal Green, LONDON, E.

All advertising matter—Booklets, Window Displays,  
Showcards, etc., free on application.

N.B.—Our goods are to be sold only at prices stated upon the Price  
List we issue to the trade, and we are pleased to exchange any article  
which may be out of condition.

## NURSE HARVEY'S MIXTURE

A safe, simple, and reliable remedy for Children's  
Ailments is advertised so extensively in the daily  
and weekly Press as to bring mothers to the  
retailer without effort on his part.

The selling has been done before the mother  
reaches the chemist, and, having supplied her, it is  
only common sense to claim she will buy other  
family necessities from him. Moreover, the retailer  
has a profitable return on a quick turnover.

For Direct Terms apply to—

OSCAR SCRUTON & CO., YORK

# PURE ORANGE WINE

## A. MILLAR & CO., LTD., DUBLIN

(VINUM AURANTH B.P.)

Prepared in strict accordance with the Formula of the British Pharmacopoeia.

(Wholesale only.)

Samples from Head Office, Thomas Street, DUBLIN, or London Office, 74 Great Tower Street, LONDON, E.C.3.

## BOTTLES.

I solicit your enquiries for MEDICAL FLATS in all sizes, plain and graduated,  
MEXICANS, POISONS, KALIS, LIMES, VIALS, CANNONS, OVALS,  
BRILLIANTINES, in all shapes. SCREW JARS, TABLET BOTTLES,  
etc. etc. All bottles used in perfumery and chemist trades. Special shapes made.

Wholesale quantities only.

VAN DER HOEKS, 321/23 Bank Chambers, 329 High Holborn, LONDON, W.C.1.

# 3

**PROFITABLE  
LINES**

# CAMWAL

**Pearlspring Health Salts**

IN 8 OZ. BOTTLES AND 4 OZ. TINS.

**Lemonade Powder** IN PACKETS, CARTONS AND CANISTERS

**Aquaperia Water or Salts**

(P.A.T.A.)

HANDSOME PROFITS ASSURED.

WINDOW DISPLAYS.

Home and Export Prices and Terms on Application.

**CAMWAL Ltd.**

LONDON, MANCHESTER, BIRMINGHAM, BRISTOL, HARROGATE  
City Office: 52 Queen Victoria St., LONDON, E.C.4. Tel. No.: City 4497.



This preparation  
formerly known as  
**"OLIVENE"**  
is now registered  
under the Trade  
Marks Act as  
**"MOLIVENE"**

# "MOLIVENE"

(Regd. Trade Mark)

**Pure EXTRACT of MALT combined  
with finest quality OLIVE OIL**

**SELLS ALL THE YEAR ROUND.**

Thousands of customers cannot take Malt and Cod Liver Oil during the summer months, but they *can* and *do* take "MOLIVENE."

Olive Oil is equal to Cod Liver Oil and has the advantage of being tasteless, having no smell and does not cause nausea as is often the case with Cod Liver Oil.

"MOLIVENE" is so palatable that even the most delicate stomach can take and digest it even in the hot summer months.

Recommend it to delicate women and children and you will ensure a grateful customer — and that is business.

*Sample and price mailed on application.*

**ROBERT BLACKIE** Manufacturer and Sole Proprietor of the world  
famed "SPUN" Ointments,

**Shen Works, Tower Bridge Road, London, S.E.1**

Telephone: Hop 2415.

Telegrams: "Ushenspuna, London."

QUALITY MAKERS of

**Malt Ext.** and

All packings.

**Malt & Oil**

**C. Tolkien & Co.** Factory & Maltings — Apollo Works,  
Offices & Warehouse — Commercial Mills, Blackburn.

Established 1886.

BELFAST—31 Antrim Road.

ESTABLISHED 138 YEARS.

**R. J. FULLWOOD & BLAND'S**

WORLD RENOWNED

"DAIRY" Brand

"STAG" Brand

**RENNET AND ANNATTO**

"Oleo" and "Sunbeam" Butter Colour, Essence of Rennet, Junket Tablets, &c.

*For Samples and Quotations, apply to 31, 33 & 35 BEVENDEN ST., HOXTON, LONDON, N.1*

RENNET WORKS, ELLESMERE, SALOP. The Largest in Europe.





## BAISS BROTHERS & Co. Ltd.

Established 1833

GRANGE WORKS, LONDON, S.E.1

Wholesale and Export Druggists, Manufacturing Chemists and Druggists' Sundriesmen,

Telephone: Hop. 4362 (3 lines).

Telegrams: "Ipecac, London."

**THIS IS YOUR OPPORTUNITY  
DON'T MISS IT!**

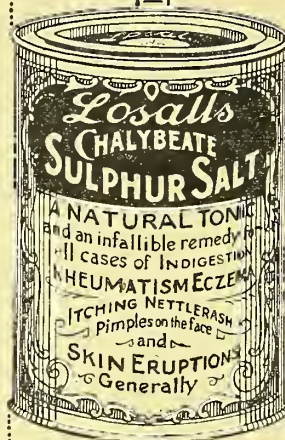
Fix your Contracts now for **SALINES, HEALTH SALTS, CARLSBAD** and all **EFFERVESCENT PREPARATIONS** to meet the **SEASON'S DEMANDS.**

*We are Specialists in these lines.*

LET US HAVE YOUR ENQUIRIES.

DELIVERIES BY OWN MOTOR SERVICE IN THE HOME COUNTIES, INCLUDING COAST TOWNS.

## LOSALL'S SALT



Sells freely and readily

**PROFIT 50%  
ON OUTLAY**

An infallible remedy for

**GOUT,  
RHEUMATISM,  
ECZEMA  
and SKIN  
AFFECTIONS.**

**P.A.T.A.**

4 oz. tins 1/-, 8/- doz. net.

8 oz. " 1/9, 14/- " "

Bottles 2/6, 20/- " "

Attractive advertising matter supplied on application.

**SOLD EVERYWHERE.**

Manufactured by

**LOFTHOUSE & SALTER LTD  
HULL**

DR. HALE'S  
**VIN-SANGUIS**  
WINE FOR THE BLOOD

## Fountain of Health

If you have a  
Wine License we  
will pay the fee.

If not, get one,  
we will pay.

Send for any



You agree to display  
"Vin Sanguis" always.  
You give us an  
agreed initial order.  
You always keep stock

further particulars.

PROPRIETORS OF  
DR. HALE'S VIN-SANGUIS

**Transcontinental Agencies Ltd**  
14, Southampton St., London, W.C.2

**MADE WITH OLD DOURO PORT**

## IRVONA

THE MOST POPULAR NERVE TONIC  
AND FLESH BUILDING TREATMENT.



A large and regular advertising campaign to support the sales of Irvona is guaranteed, and every chemist should carry stock and let the public know that he does so in order to share in the growing boom in this excellent product. Neat and attractive Show Cards, 11" x 4 1/2", sent on application.

The trade prices are:—

1/3 size "IRVONA," 12/- per doz.

5/- " " 48/- " "

12/- " " 115/- " "

The old sizes (3/- and 15/-) have been withdrawn, and any chemist still having stock of these should return them to me. They will be credited in full and exchanged for the new sizes.

IRVOLAX (the safe aperient) is also being asked for, and the prices are 1/3 size 12/- per dozen: 3/- size 29/- per dozen.

Obtainable through the usual wholesale houses, or direct against cash or usual trade references.

**P. J. WILLIAMS**

27 Finsbury Street, LONDON, E.C.2





## *When a Mother cannot suckle her child —*

it is of the utmost importance she should use only the best means of artificial feeding.

**Every pharmacist will recognise** this, and will wish to supply the mother who comes to him for a feeder with the best that is made. To be sure of doing this he should specify Wood Brothers' make when ordering from his wholesale house.

**Wood Bros. Glass Co., Ltd., have given special attention** to the production of double-ended feeders of supreme excellence.

**Highly qualified chemists keep a constant watch** on the purity of the materials used. The beautiful lustrous white flint glass of which the feeders are made contains neither arsenic nor lead (usually present in ordinary white flint), and is so durable that it can be continuously boiled in water for twenty-four hours without showing signs of deterioration. The workmanship is of the best. Every feeder is carefully examined before it leaves the factory, and all showing any defect are destroyed.

**Wood Bros. have made glass containers of many kinds for nearly a century:** they have never produced a finer article in its way than this double-ended feeder. It is something which the pharmacist can sell with confidence and the mother use with satisfaction.

SOLD BY ALL THE LEADING WHOLESALE HOUSES

# WOOD BROTHERS GLASS CO. Ltd.

BARNESLEY

(ESTABLISHED 1828)

ENGLAND

# Here it is

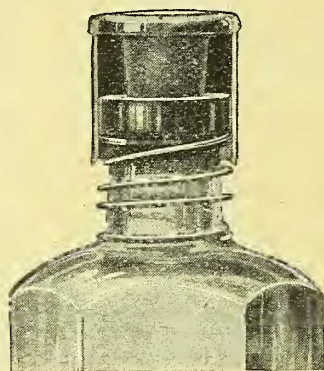
## THE "SAFEGUARD"

### FITTING FOR POISON & MEDICINE BOTTLES

The Public will appreciate the recommendation of this device as a "Safe-Guard" and Caution in connection with Poison and Medicine Bottles.

It is fitted and manipulated with ease, giving a few seconds between error and safety.

HIGHLY COMMENDED BY CHEMISTS, DOCTORS, NURSES AND  
THE PRESS AS A LONG DESIRED SAFEGUARD.



Bottles 1 oz. to 4 oz. SIZE 1  
" 4 oz. to 20 oz. " 2  
" 20 oz. up. " 3

WHOLESALE - 4/6 doz.  
RETAIL 6d.

*From all Wholesale Houses, or direct, carriage paid, from the Makers :*

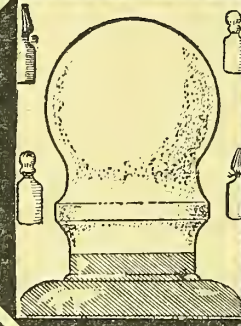
**JOHN LECKIE & CO. LTD., Goodall Street, Walsall**

## CORK TOPS

ANY SIZE, COLOUR OR DESIGN  
HIGHEST QUALITY, STRONGEST GUM  
EVERY ONE PUNCHED DEAD TRUE  
QUICK DELIVERY—LOW PRICES

*Samples gladly on receipt of Trade Card.*

**WM. SESSIONS LTD., Ebor Press,  
YORK.**



### VISKAP

**SELF - FIXING  
BOTTLE CAPS**

Transparent, Opaque,  
or Coloured.

*From the Manufacturers :*  
**THE VISCOSE  
DEVELOPMENT Co., Ltd.**  
*Viskap Works,*  
**BROMLEY :: KENT**

For

## GLASS BOTTLES

Write to

*Fred<sup>k</sup> Youldon*

*Formerly proprietor of E. YOULDON. Established 1840.*

**PORTLAND HOUSE,**

**73 Basinghall Street, LONDON, E.C.2.**

*'Phone : London Wall 3529.*

*Wires : "Youldon, Stock, London."*



For  
Sundries  
write  
to  
Henry W.  
Bush & Co  
Limited

32 COMMERCIAL STREET,  
LONDON, E.1

Telephone : Central 1957.

Telegrams : "Bushranger, Norton, London."

SPECIALITIES

GLASSWARE

Measures	Shop Rounds
Medicine Tumblers	Drop Bottles
Syringes	Boiling Flasks
Funnels	Beakers

ENAMELLED IRONWARE

Bed Pans	Spitting Mugs
Dressing Trays	Instrument Trays
Feeders	Evaporating Dishes
Measure Jugs	Douche Cans

EARTHENWARE

Bed Pans	Gallipots
Dressing Trays	Medicine Measures
Poultice Bowls	Shop Jars
Sick Feeders	Nelson Inhalers
Menthol, Trusses, Rubber Goods, etc.	

# CAPSOL DYES

for all  
Household Dyeing



**CAPSOL DYES for all materials**

**"CAPSOL WONDER" No Boiling**  
Leaves lace insertion white

**"CAPSOL DIPPIT" No Boiling**  
The ONLY cold water dye from start to finish

**CAPSOL DYES in every shade**  
Time 10 seconds. No Boiling

Showcards &c. supplied.

Address all enquiries to Works.

**CAPSOL DYES, LTD.**  
Sep Avenue, Blackpool.



# “Truth” on *The Attack*

“TRUTH” has won a world-wide esteem for the outspoken frankness of its comments on matters of public interest, but “TRUTH,” fearless as it is in exposing what it conceives to be a sham, is equally straightforward when finding itself in the wrong.

On July 9th appeared a paragraph in the editorial pages of “TRUTH” severely criticising statements in Milton’s Wembley advertising, but so obviously based on misleading information “presumably circulated by trade competitors,” that we considered it necessary to communicate to the Editor of this journal the actual facts, together with Laboratory, Hospital and Medical Reports on Milton, so as to enable him to clear “TRUTH’s” good name of an unwitting calumny.

On the opposite page we print in full the leading article appearing the subsequent week, in which “TRUTH,” after full investigation, definitely proclaims its error and a full vindication of Milton.



MILTON PROPRIETARY  
LIMITED  
Telephone: Clerkenwell 3860

ANTISEPTIC

Office and Works: 125 Buntill  
Row, E.C.1  
Tel. “Ocnolim, Barb, London”



# MILTON

## and the Apology

*Extract from "TRUTH," July 16th, 1924*

### The Advertising of "Milton"

Though it is unpleasant to every journalist to admit he has made a mistake, from every other point of view I am glad to be able to say that the criticism in last week's TRUTH of the press advertisements of "Milton" in connection with the Wembley Exhibition were not justified by the facts. The principal criticism was that the claims made in these advertisements on behalf of Milton are negated by "a judgment of the United States Department of Agriculture," which pronounced the preparation ineffective for all the uses assigned to it, and decreed the confiscation and condemnation of 2,376 bottles.

It is best to make a clean breast of it and admit at once that the judgment did not make any such pronouncement, though the decree was issued. What was referred to in TRUTH as the "pronouncement" in question was simply a recital of the *allegations* made against Milton by the authorities who seized it. The circumstances were that the bottles condemned were a portion of a much larger consignment imported by a New York firm now in liquidation. This firm removed the original labels from these bottles and substituted others, in which the chemical formula required by American law was wrongly stated. They gave no notice to the British proprietors, Milton Proprietary, Ltd., either when the bottles were seized or when the decree was pronounced. They made no appearance or defence before the Board of Agriculture. The decree accordingly went by default (as is indicated on the face of it), and Milton Proprietary, Ltd., never heard of it till a year or so afterwards, when reprints of the judgment, presumably circulated by trade competitors, began to reach them. All these statements I have from the directors of Milton Proprietary, Ltd., in London, two of whom I have seen.

It is obvious that a judgment delivered by default in this way on an ex-parte application, without any judicial inquiry into the allegations of the prosecution, has no significance at all. But this is only the negative side of the case. When it was in contemplation to introduce Milton into the United States the directors submitted it to the Pease Laboratories, New York, as one of the most authoritative and reputable institutions for the purpose of testing and reporting upon it. The report of the

Pease Laboratories, which I have, is prefaced by the statement (I purposely avoid technicalities as far as possible) "we firmly believe that Milton is a decidedly novel preparation of unusual value," and this is borne out in detail by the elaborate reports which follow giving the results of the various tests applied. These are for the most part judged by reference to a standard antiseptic of the same class, known as Dakin's Solution, the findings being generally to the advantage of Milton as between the two.

Further evidence, which will perhaps count for more in this country, has been supplied to me by the directors, in the shape of reports by English analytical chemists, medical practitioners, and medical officers of numerous English hospitals, who have used Milton with highly satisfactory results, not only for general antiseptic purposes, but in the treatment of specific diseases. It is impossible within the limits at present available to go into the whole of the evidence of this class that I now have before me, but I hope enough has been said to show that there is no ground whatever for questioning the utility of the preparation.

I ought to say, however, that the remarks made last week, as to the official recognition of Milton at Wembley are the result of some misunderstanding. It must be understood that Milton is not a "disinfectant" in the ordinary commercial sense of term; it is not a stuff that you pour down drains. In that sense it is true, as said last week, that it is not recognised by the medical authorities at Wembley as the official disinfectant. But it has been officially recognised for the purposes for which it is in use: that of disinfecting the air in the Amusement Park and the crowded buildings, and for keeping down smells and flies. Of its utility for these purposes there is plenty of recognition from different quarters, the most remarkable testimonial of this kind that I have seen being one from Mr. Tex Austin, who writes enthusiastically of the "marvellous results" achieved in the corrals, pens, etc., attached to the famous "Rodeo," and in the daily treatment of the cowboys and cowgirls for cuts and bruises. I hope that the reputation of Milton and its advertising is now firmly re-established so far as TRUTH is concerned.



NEW EDITION.

# SQUIRE'S PHARMACOPŒIAS of the LONDON HOSPITALS

NINTH EDITION. Published by J. & A. CHURCHILL,  
7 Great Marlborough Street, London, W.1.

Foolscap 8vo.

Pp. 451.

Price 12s. 6d. per copy.

Postage 5d.

A systematic comparison of the formulæ of thirty-one of the London hospitals, including the Children's Hospitals and the French Hospital. The formulæ are arranged under the headings of the various preparations so that an immediate comparison may be made between the prescriptions of the different institutions.

*The British Medical Journal* says:—"The value of the book to the medical profession is even greater than that of its predecessor, since it comprises a practical compendium of all the best medical treatments."

*The Lancet* says:—"There can be no question of the practical utility of a book which presents an exhaustive comparison of the pharmacopœias of the London hospitals, for in these institutions the formulæ will be selected for the best reasons which the knowledge of the day can furnish, while their selectors represent leading authorities on all therapeutic questions."

## SQUIRE & SONS, LTD.

Chemists on the Establishment of the King,

413 OXFORD STREET, LONDON, W.1.

Telephone: Mayfair 2307 (2 lines).

Telegrams: "Squire, Wesdo, London."

WESTMINSTER COLLEGE OF PHARMACY.

### WILLS' UNIVERSAL POSTAL SYSTEM

FEES (BRITISH ISLES)

Part 1 or 2 - - £1 1 0

Parts 1 and 2 - - £1 11 6

For Qualifying, Preliminary & Apothecaries Hall Examination  
Individual subjects may be taken.

Full particulars from The Principals,  
190 CLAPHAM ROAD, S.W. 9.

MANY SUCCESSES IN THE EXAMINATIONS!

Your Opportunity to

### QUALIFY IN OPTICS

PRACTICAL WORK. Students taking the Course may receive personal tuition in the practical work AT ANY TIME DURING THE COURSE.

Expert Tuition for the SIGHT-TESTING DIPLOMAS of the Worshipful Company of Spectacle Makers (F.S.M.C.); the British Optical Association (F.B.O.A.), or the National Association of Opticians (F.N.A.O.).

Write for full particulars—

C.A. SCURR, B.Sc., M.P.S., F.S.M.C., F.B.O.A., F.I.O., F.N.A.O.  
50 High Street BARNET  
(N.Z. Representative: C. AITCHISON, PALMERSTON Nth.)

### KODAK FILMS DEVELOPED AND PRINTED SAME DAY

Bright Sparkling Results that will help you Build Business. Moderate Charges. Wholesale Terms. Unfailing Service. Write for List and Terms.

WALLACE HEATON LTD.

17-27 CHANGE ALLEY - SHEFFIELD.

We buy overstocks of cameras for cash and offer big prices.

### PROTECTION!

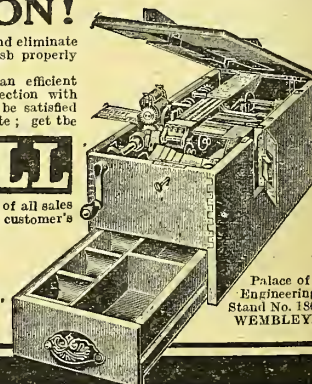
Secure full benefit and satisfaction, and eliminate possible errors, by having your cash properly checked. The Gledhill Total Adder provides an efficient system of obtaining maximum protection with minimum outlay and effort. Don't be satisfied with the total only, which is inadequate; get the

### GLEDHILL

System which supplies full particulars of all sales and in the case of an account paid the customer's name.

Send for our Illustrated Catalogue and full information.

G. H. GLEDHILL & SONS, LTD.  
16, TRINITY WORKS,  
HALIFAX.



Palace of Engineering  
Stand No. 136  
WEMBLEY.



# Weight of Argument TELLS

In the leading newspapers and periodicals of the country announcements will be found extolling the virtues of Whitaker products. Customers are being sent to your establishment. Are you meeting their requirements?

## 'LUTON' STRAW HAT DYES

The outcome of 45 years' accumulated experience in the manufacture of household dyes. Supplied in Dull or Glossy series. They sell readily—all the year round—and trade discounts are right for the Pharmacist—always.

## "AURORAL" DYES—COLD WATER

Recognised as the finest cold water dye in the world for dyeing delicate and costly fabrics. Good results obtained, even at the first attempt. A certain seller.

## "LUTON" FABRIC DYES

The best hot water dyes for all materials, giving perfect results with the minimum of trouble. As with all Whitaker products they show a good profit.

Entirely British—British Enterprise  
British Labour—British Capital.

All Cases and Containers Free. A special non-inflammable series is supplied for export.

If you are not already carrying a stock of Whitaker products a postcard will bring you further information, prices, patterns, etc.

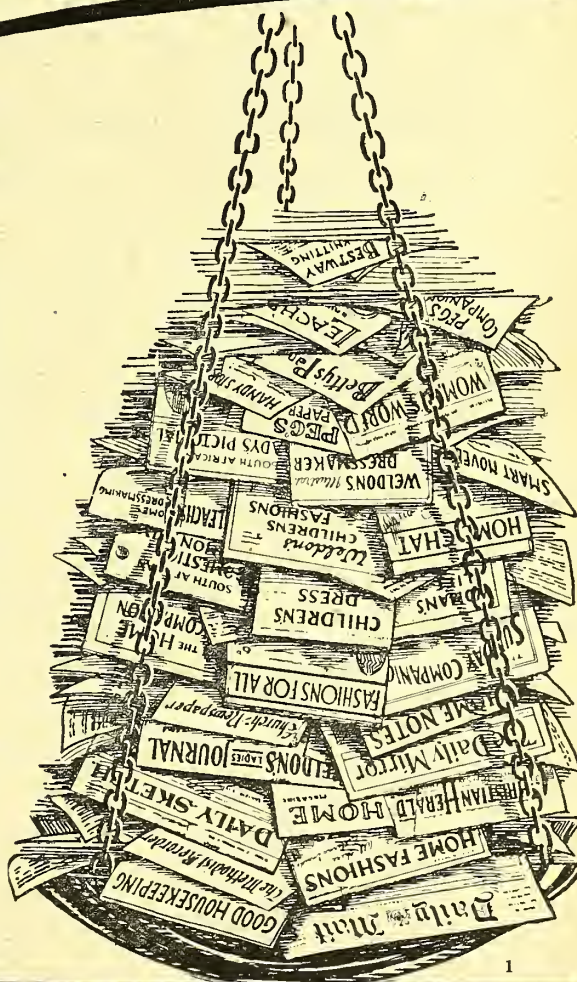
## WHITAKER & CO.

Luton Dye Works - - - KENDAL.

Dye Specialists to the Chemists' Trade.

Telegrams: "DULLETTE, KENDAL." Telephone: 214.

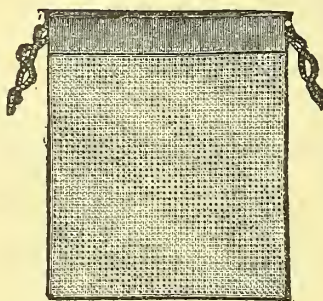
London Office and Showrooms:  
61 & 62, CRAVEN HOUSE, KINGSWAY, W.C.2.  
Established 1878. Telephone: Gerrard 1774.





# Seasonable Sundries.

## Sponge Bags & Bathing Caps.



No. 978



No. 1200



No. 428

		SIZES per doz.	1	2	3	4	5	6
			6 0	7 6	8 6	10 0	11 6	14 0
No. 978.	SPONGE BAG, check sheeting, fancy binding .. .. .	..	6 0	7 6	8 6	10 0	11 6	14 0
.. 1200.	.. .. super best .. .. .	..	7 6	9 0	10 6	13 0	15 0	18 0
.. 1201.	.. .. assorted, fancy colours .. .. .	..	10 0	11 0	12 6	15 0	18 6	23 0
.. 1775.	.. .. the "Climax," proofed both sides .. .. .	..	8 6	10 0	12 0	14 6	18 0	21 0
	.. .. all rubber, assorted art shades, fancy designs .. .. .	..	16 6	18 6	22 0	24 0	27 0	30 0
No. 428—	BATHING CAP, helmet shape, rubber, assorted 3 colours, per doz.	16 6						
..	.. helmet shape, red rubber, lined band ..	18 6						
No. 428—	BATHING CAP, helmet shape, extra stout rubber, assorted 3 colours, per doz.	20 0						
.. 1614—	Water Polo Cap, std. shape, red rubber, 2 sizes ..	16 0						

## Tooth Brushes

(in Hygienic Containers).

			Per doz.	
			s.	d.
No. 712.	Prophylactic shape, celluloid handle, 4 rows bristle, each in card carton ..	..	14	6
.. 713.	.. .. bone handle, 3 rows bristle, each in card carton ..	..	14	6
.. 5582.	Ordinary shape, celluloid handle, 4 rows bristle, each in a sealed transparent envelope .. .. .	..	9	6
.. 5561.	.. .. celluloid handle, superior quality and finish, each in a sealed transparent envelope .. .. .	..	13	6

## Hair Brushes.

SPECIAL LINES.

			Per doz.	
			s.	d.
No. 576.	Ladies' Hair Brush, rubber base (pneumatic), whalebone bristles ..	..	45	0
.. 577.	.. .. " " " " " " ..	..	54	0
.. 561.	.. .. real ebony back, 11 rows white bristle ..	..	54	0
.. 557.	.. .. " " " " " " ..	..	72	0

For full range of Tooth and Hair Brushes see list of "Toilet Requisites."

CARRIAGE PAID ON ORDERS OF £3 AND UPWARDS.

A discount of 5% for prompt cash is allowed on all amounts of 10/- and upwards. Money returned if goods are not satisfactory. Write for New Price Lists of Druggists' Sundries, Toilet Requisites, Rubber Goods, Cut Sheet Rubber Appliances, etc.

**BURGE, WARREN & RIDGLEY, LTD.** 91 & 92 GREAT SAFFRON HILL,  
LONDON, E.C.1.



## IT COSTS YOU A LOT OF MONEY TO SAY "SORRY ! BUT WE DON'T STOCK THEM"

That old joke in reply to the enquiry "How do you find business, old chap?" stands on a great truth. Some of us know it, but don't take it to heart. *Going and looking for it* is still the only way to find business. Here is a suggestion for you to increase your sales.

Have you ever realised the amount of business you are losing if you are not stocking those two proved sellers, Silkum Corn Remedy and Moorland Heart-Shaped Tablets? There is a very big demand for them, and it undoubtedly costs you a lot of money every time you tell a prospective customer that you do not stock them.

Let us take Moorland Heart-Shaped Tablets. A window display of this line will much more than pay for the space it occupies, because the demand will continue long after its place in your window has been taken up with other goods. These tablets are the original make, those with the "M" on which are so popular, and which the public are demanding daily.

They are real profit earners, selling at a fixed price of  $7\frac{1}{2}$ d., and on a three gross order they show you a handsome profit of nearly 100%.

You can also have your choice of sanitape or loose in cartons. Excellent showmatter is supplied, and the outstanding window display is all that can be desired. Why not put some in your window next week? Send along your order while the matter is before you. They cost you 51/- gross, 48/- gross in three gross lots. Under one gross  $4\frac{2}{3}$  doz.

Then there is Silkum, what a splendid little line this is, one of the most popular corn remedies on the market to-day. We have sold thousands and thousands of packets, and the way the repeat orders are still coming in is very gratifying indeed. It shows that a number of pharmacists are really doing a tremendous business with this line. It costs you  $4\frac{2}{3}$  doz., 4/- doz. gross lots, and sells at  $7\frac{1}{2}$ d.

GOOD  
SHOWMATTER  
FREE



RETAIL  
**7 $\frac{1}{2}$ d.**



W. B. CARTWRIGHT LIMITED - RAWDON NEAR LEEDS

**T.H. FORD LIMITED** **REGISTERED TRADE MARK** **6, WELL ST. LONDON, E.C.1**

Telegrams: Droscolum, Cent. London. Telephone: City 2522 (Private Branch Exchange)

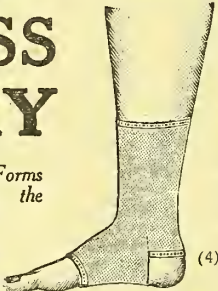
**"INGOT" QUALITY**

**BEST VALUE IN THE TRADE.**

PLAIN, WHITE AND FANCY  
BATH GLOVES & WASHING SQUARES,  
SPONGE BAGS & BATHING CAPS,  
CHECKS & COLOURED RUBBER.

**"SURCO" SEAMLESS HOSIERY**

Always Reliable.



For Catalogues, Measurement Forms and liberal selling terms address the Patentees & Manufacturers

The Surgical Hosiery Co., Ltd.  
Dept. B, Russell St., NOTTINGHAM

## THE LIGHT OF DAY

through the smooth crystal glass of the

### "STANDARD" FEEDING BOTTLES

will quickly confirm your guarantee of purity to a fastidious customer.

The **(W)** trade mark on each bottle is proof enough of our backing for this guarantee.

It will pay you to be enthusiastic about **"STANDARDS"**; for you gain a good profit and a satisfied customer.

Complete in carton, with teat, valve and bristle cleaning brush.

6/6 doz.; 1 gross 72/-

*"The Feeder you will re-order."*

**THOS. SWALES, 20-24 Butts' Court, LEEDS**

The

## "PRORACE" CAP PESSARY

(Registered)

Notice to Retail Chemists.—The **"PRORACE" CAP** is the device so strongly advocated in *"Wise Parenthood," "Contraception,"* and other Medical : Works, and the demand already is phenomenal. :

**YOU SHOULD BE GETTING ENQUIRIES!**

Can be obtained from all the leading Wholesale Houses, or from the sole Manufacturers, as below:

**LAMBERTS (DALSTON) LTD.** 60 & 62 QUEEN'S ROAD, DALSTON LONDON " " " E.8

Also Manufacturers of Surgical Rubber Goods of all kinds.



## Some Reasons Why

### The PATENT NECK

makes the "Ronoleke" the only perfectly water tight hot water bottle. The weakest part of the ordinary bottle is the "Ronoleke's" strength.

### NO WIRING

to rust and corrode—just solid built up rubber of great strength. The patent neck has socket lugs embedded in the rubber.

### NO WASHERS

to perish or renew. The screw top flange engages with the solid rubber platform—it cannot loosen when screwed.

### PRICE RIGHT

There are a variety of sizes in two colours at reasonable prices. There is the right bottle for every one of your customers.

### PROFIT RIGHT

A glance below will show you that the "Ronoleke" profits are good—just as good as the bottle itself in fact.

Stock "Ronoleke." Send along your order now. £5 orders and over less 5% plus a further 5% for prompt cash.

# Stock the RONOLEKE

## THE BEST RUBBER HOT WATER BOTTLE

Everything should have its reason. When asked to take a certain step a man will, if he be wise, expect a good reason to accompany the request. Therefore, when we say "Stock Ronoleke" we tell you why you should do so, just as we substantiate our statement that it is the best rubber hot water bottle.

Of all reasons, the profit is undoubtedly the most important. The profit on "Ronoleke" is very good alone. When the result of each sale is considered it is wonderful. For every sale means another satisfied customer, a permanent customer, and one who will invariably recommend the "Ronoleke" and your business.

*Sales are being  
made for you!*

Again we are advertising the "Ronoleke" Hot Water Bottle, in an even more extensive manner than last year. Our advertising campaign will bring potential customers right to your window. Stock "Ronoleke" and display—they'll buy from you when they see that you stock.

### SUPER RED DRAB

Size	Wholesale Prices	Retail Prices	Wholesale Prices	Retail Prices
8 × 10	5/-	7/6	4/8	6/6
8 × 12	5/9	8/6	5/3	7/-
10 × 12	6/6	9/9	6/-	8/-

from

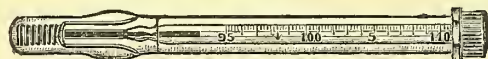
WHOLESALE & SUNDRIESMEN, ETC.





Telephone: HOP 1350

Telegrams: "CLINBRITIC, BOROH, LONDON."

**BRITTON, MALCOLM & WAYMARK, LTD.****SPECIALISTS IN SURGICAL SUNDRIES,  
DRESSINGS, AND TOILET BRUSHWARE.****PERSONAL ATTENTION.  
DEPENDABLE QUALITY.  
COMPETITIVE PRICES.**A. B. Britton, Ph. C.  
G. Malcolm.  
G. Waymark.**38, Southwark Bridge Rd.,****LONDON, S.E.1. (TRAM  
TERMINUS)****A. C. COSSOR & SON***Established 1859.***High Class  
Clinical Thermometers****PATENT****THE ACCOSON ASEPTIC CLINICAL.**

The Thermometer is sterilised each time it is placed in the case, and the markings on the tube are not defaced. Any 4" clinical will fit the case.

Prices on application, or can be obtained from all Wholesale Houses. ORIGINAL PATENTEES OF EASY SET CLINICAL THERMOMETERS. Contractors to all Government Departments.

**Accoson Works, Vale Road, London, N.4.***Telephone : Tottenham 1880.*

**When going on holidays**  
impress on your customers the advantages of taking with them a set of

**NORVIC**  
(Regd.)  
**Crêpe Bandages**

They prevent, as well as cure, varicose veins, hygienic and practically invisible.

*Recommended by doctors and nurses everywhere.*

Sole Manufacturers  
**GROUT & CO., LTD.**  
**GREAT YARMOUTH**



# SIMPLIC SOOTHERS



## Reduced Prices—Better Values

SIMPLIC PATENT ALL-RUBBER SOOTHERS have now been reduced to retail at

**LARGE - - 6d. each**

**SMALL - - 4½d. ,,**

*Ask your supply house for 1924 prices.*

SIMPLIC SOOTHERS have also been increased in weight and they now represent the best value in soothers on the market.

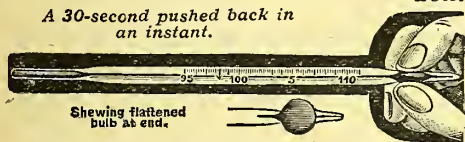
Packed in Dustproof Cartons.

ASK FOR DISPLAY CONTAINER of TWO DOZEN

*Ask also for SIMPLIC TEATS in cartons. This companion line is put up in boxes of 3 dozen Teats in 8 different patterns.*

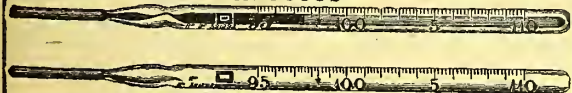
## ZEAL'S REGISTERED Clinical Thermometer *The REPELLO* requires no shaking down

A 30-second pushed back in an instant.



## NEW IMPROVED LENS FINDER

The only Easy Reading Magnifying Clinical on the Market.  
IN FOCUS



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The square mark engraved on lens front locates the Mercury column immediately

SPECIAL AWARD AND GOLD MEDAL, NEW ZEALAND, 1907

SILVER MEDAL, INDIA, 1909. SILVER MEDAL, LONDON, 1913

**All Clinical Thermometers are supplied N.P.L. Tested unless otherwise ordered.**

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Established 1888.

Wholesale Manufacturers of Clinical Thermometers.  
Contractors to H.M. Government.

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The

# Lullaby

REGD.  
Patent applied for.

## SEAMLESS-MOULDED NEW PROCESS FEEDING BOTTLE TEAT



Pure, Transparent,  
Heat-cured Rubber.

Improved design, anti-choke thickened ball top. No ribs. Perfectly hygienic, and easily boiled for sterilization without injury.

Absolutely non-poisonous and practically anti-hygroscopic. Most durable of all teats. Packed each in carton in counter display boxes of three dozen.

From all Wholesale Druggists' Sundriesmen, or direct from—

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For COLOURING GREY HAIR

This popular article is largely advertised  
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Trial Size 8d., per post 10d. 1/4 size, per post  
1/7; 2/6 size, per post 2/10; 3/9 size, per post  
4/3; 8d. size, 6/- doz.; 1/4 size, 12/- doz.; 2/6  
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ALWAYS IN GREAT DEMAND.  
PRICE LIST ON APPLICATION.

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**STAMPING STAMPOO.**

## CHICAGO HAIR DYE

*Do you know where to obtain?*  
MADE IN FIVE SHADES.

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circular. NO ADVERTISING THAT  
A CHEMIST CAN DO BRINGS IN  
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at so trifling an outlay.

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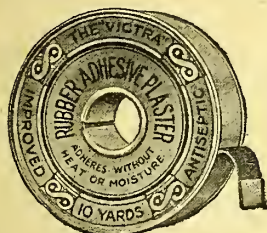
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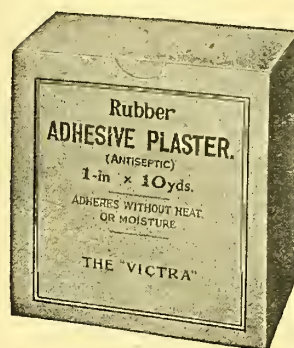
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Illustrated List.

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THAT  
**THE "VICTRA"**  
**RUBBER ADHESIVE PLASTER**  
— IS —  
**THE IDEAL MENDING TAPE.**

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Slide Boxes containing 6 Straps. Handsome Display Outers.



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## The Marvel Whirling Spray Syringe



**Gold Medal Awarded, Paris, 1902,  
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as the latest and best improvement in  
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its peculiar construction the Marvel  
Syringe dilates and flushes the vagina  
with a volume of whirling spray, which  
smooths out the folds and permits the  
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and cleansing the entire surface.

**Fully Protected by Patents.**



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Has no rival on the market, is  
well advertised, pays a good profit,  
quality guaranteed. The MARVEL  
is returnable for exchange if found  
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The ideal **transparent** wrapping **absolutely** harmless, air and grease proof, as used by all the leading Perfumers, Soap Manufacturers, etc., etc., for wrapping Soap, Drugs, Tablets, Bath Crystals, Perfumery, Surgical Dressings, Sponges, Puffs, Soothers, Tooth Brushes and all Articles of Toilet.

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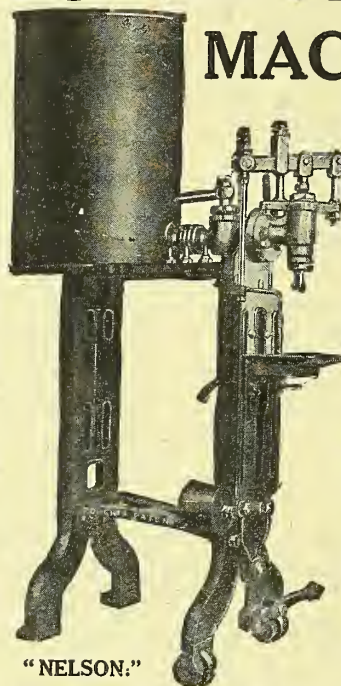
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Don't waste money on imitations, buy **Roberts' Machines** which actually **Created the Records** for

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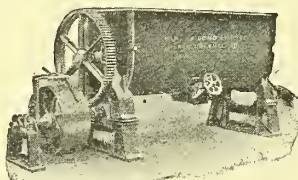
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will fill 10 gross bottles  
per hour.

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Combined or Separate Machines.



Absolutely up-to-date in every detail, strong, and most reliable machines on the market. Various sizes.

**BALL MILLS**

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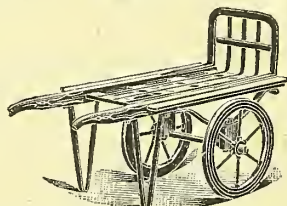
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Mean Greater Turnover for You—and Absolute Satisfaction for Your Customers.

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are now sold in glass tubes, encased in smart, clean-looking "safety-first" cartons. They are retailed at 2d. each, made in 25 popular shades and colours, and are extensively advertised in the right publications.

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Lipsalve Cases, Sprinklers, etc.

Made in Pure Tin, Lead, or Lead coated with Tin, Plain or Enamelled, and printed with designs to suit customers' own requirements

Manufactured by  
VENESTA, LTD. 1 Gt. Tower St., London, E.C.3







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THE Wasp Flyband is the quickest selling and most efficient fly trap sold. It keeps its condition for an indefinite period and thoroughly satisfies all purchasers because it is clean to handle and perfectly hygienic. It ensures a rapid turnover and secures for you liberal protected profits.

## The WASP FLY BAND

Prices and particulars from Sole Manufacturers:

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## SHERLEY'S DOG MEDICINES INSECT POWDER SHAMPOO, and LACTOL (P.A.T.A.)



These preparations command a ready sale, and are by far the largest advertised of any on the market. They are protected at prices that leave an excellent margin of profit for the retailer, and the terms on which they are supplied preclude any possibility of loss.

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Send us a postal order and we will send you a 32 page catalogue of professional and business books for pharmacists, and a copy of

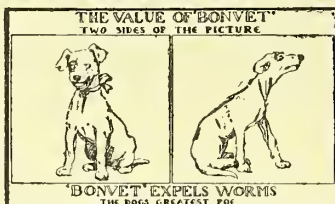
### "THE SPATULA"

an illustrated monthly magazine for druggists, full of American snap and enterprise.

The SPATULA, BOSTON 14, MASS., U.S.A.



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GAVE  
ME  
"BON-  
VET"



WHY  
CAN'T  
I  
HAVE  
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Your Clients will ask for "BONVET" WORM CURE. Live Stockists have it ready! Have you?

REMEMBER YOU RUN NO RISK OF 'BAD STOCK'

"BONVET" WORM CURE SELLS ITSELF.

Send TO-DAY for artistic outer containing 1 dozen 1/3 packets for display on your counter.

Wholesale Price, 10/- per dozen. Carriage Paid.  
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The original and by far the best STICKY FLY CATCHER on the Market. 40 years' reputation.

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Prices on Application.

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## "PAZO" (COMPRESSED) PILL BOXES

The most convenient and secure Pill Box obtainable.

NO LOOSE BOTTOMS.

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**THE "PAZO" CO., Oldbury.**  
Makers of MACHINE-MADE PAPER BOXES, SPOOLS, &c.



## The "ROLO" Fly Catcher The 'Best Seller' of the Summer Season

Neat and attractive in appearance, clean to handle and easy to open, the "ROLO" is at once both useful and ornamental. Evenly spread on both sides with our special non-drying gum, it is, in short, the Ideal Cemetery for Flies!

Made in two sizes - - - 1d. and 1½d.

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High Street, Old Basford, NOTTINGHAM.

An exceptionally good profit, quick sale and no risk of large stocks at the end of the season, as you can buy little and often, and have delivery within 36 hours by passenger train.

Send to-day for samples and prices, or order through your usual wholesaler.



FRATELLI Liquorice Juice is of supreme quality, quite palatable, excellently packed in decorated cartons. It remains hard and bright in all temperatures.

*Consistently Advertised.*

MODERATE  
PRICE.

**FRATELLI**  
Registered.

**PUREST LIQUORICE JUICE**

INSIST ON

STOCKED  
BY THE LEADING  
WHOLESALE HOUSES.

*Sole Importers:*

**ASTOR, BOISSELIER & LAWRENCE**

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## Opportunities for Retailers



We often take back used Cash Registers when customers are installing larger or more up-to-date machines. These National Cash Registers

### Thoroughly Overhauled and Rebuilt

are sold under the Company's full guarantee at reduced prices.

*Write for details of "Nationals" available:—*

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### IMPORTANT NOTICE

Messrs. WILCOX, JOZEAU & CO. beg to announce the following **IMPORTANT REDUCTION IN PRICES:—**

**RETAIL PRICE**

per **1s. 3d.** box

Chemists .. **12s.** per doz. stamped.

*Terms:—* Nett, monthly statement.

Carriage Paid on orders of 20/- and upwards.

*Sole Importers, British Empire (except Canada)—*

**PASTILVAL, LIMITED.**

*Sole Distributors—*

**WILCOX, JOZEAU & CO.**

**15 Great St. Andrew Street, London, W.C.2**

August 1st, 1924.

# Marshall's LYSOL

DISINFECTANT

## "A STANDARD PRODUCT"

—"The Lancet"

MARSHALL'S stands pre-eminent amid a host of imitations because it sets a standard not only in quality but also in price. . . . .

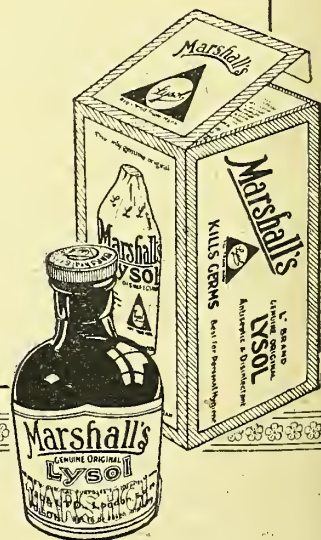
Antiseptics are not goods that can stand any variation of or reduction in their specified standard . . . . they can never be included in "marked down" articles.

Pharmacists who appreciate our standard generously support us, and thereby indicate their approval of our principles.

MARSHALL'S LYSOL will always do credit to your recommendation.

*We would like to send you one of  
our new window bills if you will  
ask us on a postcard. Our bonus  
:: terms will be sent also. ::*

LYSOL LIMITED - LONDON - S.W.20





# August—September

EVERYBODY will be making the most of these months. Motoring, cycling, picnics on land and water—a hundred outdoor enjoyments.

TRADE MARK 'TABLOID' BRAND

**TEA**

and

TRADE MARK 'TABLOID' BRAND

TRADE MARK 'SAXIN' MARK

Here are two obvious acquisitions to every lunch and tea basket, easy to sell to outdoor people. Your share of this business is there if you go after it. Show material will be sent for a postcard.

'Tabloid' Tea: tins of 100, 10/9; and 200, 18/- per doz. 'Tabloid' 'Saxin,' gr. ¼: bottles of 100, 200 and 500, 12/6, 23/6 and 54/6 per doz. respectively (subject)

## A Personal Test

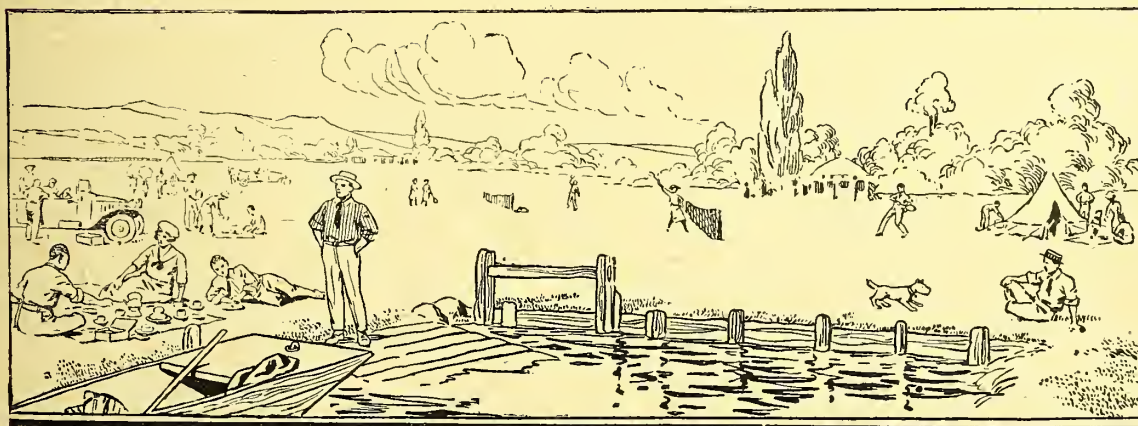
Try these products in your own household. Experience the delightful flavour of 'TABLOID' TEA, enjoy its aroma and observe its economy. Notice the sweetening power of 'SAXIN,' its freedom from metallic taste. Make this test and you will sell with enthusiasm.



BURROUGHS WELLCOME & CO., LONDON

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# THE BRITISH DRUG HOUSES LIMITED



## "EASTERN FOAM"

The illustration shows the packing of "Eastern Foam" Vanishing Cream by mass-production methods, employing a travelling belt.

The special machines at the far end fill the pots (under pressure) at the rate of 30 per minute. The pots are carried on the moving

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The little sample boxes are dealt with simultaneously in the same manner.

"EASTERN FOAM" is now being advertised to the public on a very large scale, and retailers ought to reap the benefit of the ever-increasing demand.

Any pharmacist who does not yet buy direct should ask for our

### WINDOW DISPLAY TERMS

*Attractive advertising material will be sent to any pharmacist on request.*

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## A WEEKLY JOURNAL OF PHARMACY AND OF THE CHEMICAL AND DRUG TRADES

THE CHEMIST AND DRUGGIST is in circulation and reputation the leading journal addressing the Chemical and Drug trades in the British Empire and other countries in the Old and New Worlds. It is the official organ of the Pharmaceutical Society of Ireland, the Chemists' and Druggists' Society of Ireland, and of other Chemists' Societies in the Overseas Dominions.

### SUBSCRIPTION RATE

TWENTY SHILLINGS a year payable in advance to any part of the world, including a copy of *The Chemist and Druggist* Diary. Subscriptions may begin with the first issue of any month. Single Copy, 9d., post free; *Diary*, 10s., post free. Postal orders and cheques should be crossed "Bank of Liverpool and Martins, Ltd."

Prix de l'abonnement annuel: le journal une fois par semaine, et l'agenda une fois par an, 20s., franco.

TERMS FOR ADVERTISING may be obtained on application to the Publisher.

Head Office: 42 CANNON STREET, LONDON, E.C.4

Telegrams: "Chemicus, Cannon, London." Telephone: Central 3617 (3 lines).

Branch Offices: 49 County Buildings, 4 Cannon Street, Manchester. (Telephone: City 52.) Melbourne and Sydney, Australia.

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Series 2323

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## Wills

HANNAH WAKELIN SYMINGTON, 42 Inverleith Place, Edinburgh, widow of Thomas Symington, manufacturing chemist, Edinburgh, left estate valued at £89,927.

MR. JOSEPH CRITCHLEY, surgical instrument maker, 14 Norwich Road, Wavertree, Liverpool, died on May 18, left £5,660 2s. 2d., of which £5,223 is net personalty.

MR. THOMAS WALTER BOLTON, chemist and druggist, Valetta, Woodhall Spa, who died on March 7 intestate, left estate of the gross value of £3,257 18s. 2d., with net personalty £696 0s. 1d. Administration of the property has been granted to his widow, Mrs. Ellen Bolton.

MR. JOHN WYNN WILLIAMS, J.P., chemist, 10 Wrexham Street, Mold, who died on April 8, left estate of the gross value of £10,655 6s. 4d., with net personalty £7,807 15s. 6d. The testator left his property to his wife during widowhood, with remainder to his children in equal shares.

## English and Welsh News

The Editor would be obliged if subscribers will send him marked copies of newspapers containing items of interest for insertion in this or other news sections.

### Appeal in the Byfleet Poisoning Case

The Court of Criminal Appeal, consisting of the Lord Chief Justice and Justices Shearman and Sankey, heard on July 28 the application of Jean P. Vaquier for leave to appeal against his conviction on a charge of murder (*C. & D.*, July 12, p. 48). The chief point of technical interest in the argument of Vaquier's counsel, Sir Henry Curtis Bennett, was his discussion of the evidence mentioning strychnine. Counsel said that the amount bought from Mr. Bland, the chemist, on March 1 was 0.12 gram. Sir Bernard Spilsbury, taking into consideration the facts that Mr. Jones had spat out and vomited some of the bromo salts after taking them, said that in his view Mr. Jones had taken nearly 2 gr. of strychnine, and possibly more. If that had stood alone the quantity of strychnine bought by Vaquier would just have been accounted for, but Mrs. Jones had said that she had poured out into her hand about half a teaspoonful of the contents of the bottle of salts, which, she said, contained more crystals of strychnine than salts. If Mrs. Jones was correct, then there must have been something like 6 gr. in the bottle originally. To put it at the lowest, there must have been 4 gr. Mr. Justice Shearman: All this depends on how much Jones brought up when he was sick. How can you tell, when a man spits out something nasty, how much he spits out and how much he swallows, or, when he is sick, how much remains in his stomach? Sir Henry Curtis Bennett: I am quite content to say that Sir Bernard Spilsbury, in fairness to the appellant, over-estimated the amount. Counsel went on to say that that point ought to have entitled Vaquier to an acquittal at once. The Lord Chief Justice, in dismissing the application, said the evidence which it was sought to offer was evidence which the appellant had in his mind at the time of the trial, and might have given then. The evidence was that he was aware of a larger quantity of strychnine concealed in a wall not far from the place where Mr. Jones took the fatal dose. It would be intolerable if a prisoner might exercise a mental reservation, and thereby enable a particular defence to be put forward.

### Birmingham

A verdict of "Death from misadventure" was returned at an inquest, on July 23, on the body of a girl named Lacey (13), whose death was caused by inadvertently drinking a quantity of "vitriol" from a bottle which had previously contained sauce.

MR. J. F. LIVERSEE, F.I.C., Ph.C., the city analyst, in his report for the second quarter of this year, states that of one of fifteen informal samples of senna leaves yielded 11.9 per cent. of ash, and, in addition, the packet included 3.1 per cent. of small stones. This made the total mineral matter 3 per cent. above the British Pharmacopœia limit. Four samples of solution of ferric chloride contained 6.0, 6.1, 5.6 and 5.7 per cent. of iron respectively. [The author's "Laboratory Notes" (p. 198) deal with this subject.—EDITOR.] One sample of boric acid ointment contained only 7.5 per cent. of boric acid.

### Hull

Health Week will be held in Hull from September 22 to 27.

Withernsea Council has decided to grant a supply of diphtheria antitoxin for free issue to patients who are unable to bear the cost.

The city analyst, in his report to the Corporation health committee, states that he has examined some lemonade crystals which contained minute fragments of glass. "The bottles in which these and similar food products are packed are in many cases crudely made," the report says, "and the glass is generally of poor quality. From this or other causes glass fragments are liable to contaminate certain bottled foods, especially jams."



### Liverpool

Mr. F. Wokes has been congratulated on his contribution to the Bath Conference.

The allurements of the country around Bath induced Merseyside motorists to start early and prolong their stay.

Pharmacists on the lines to the Cathedral have received increased business owing to the many thousands of visitors.

The tennis match, Liverpool Pharmacy Club v. Thompson & Capper's staff, began on Sunday, but had to be suspended through rain.

Mr. L. Walker (late Hargreaves), Manor Pharmacy, Great Crosby, has had a new front inserted, and the whole of his business premises is now being remodelled.

"Your chemist and druggist is more than a merchant. Try him first; he will serve you with understanding." So runs a window card in a pharmacy.

For the second time in a fortnight the Everton shop of Norman's Pharmacies, Ltd., has been broken into and cameras have been stolen. Some time ago a similar theft took place from Allan Brothers, chemists, whose pharmacy is in the same neighbourhood.

The sale and consumption of methylated spirit was discussed at a meeting of the Liverpool Licensing Bench on July 28. Mr. Henry Peet said that the new regulations, providing for the addition of pyridine, did not seem to have had the least effect, and the demand was as large as ever. The difficulties surrounding its sale were very great, as the subterfuges resorted to by people wishing to obtain the spirit for drinking were really past understanding; he himself refused to supply it half a dozen times a day.

### Manchester

Members of the associations concerned are asked to note that the picnic to Port Sunlight, at the invitation of Lord Leverhulme, will take place on September 3.

The Conference at Bath was very well attended by Manchester Pharmaceutical Association officials, no fewer than five ex-Presidents, in addition to the President, being there with their ladies. Mr. Pidd, a B.P.C. veteran, was also there with Miss Pidd and Miss Fish. These representatives were supported by many Manchester and Lancashire friends, as shown in Mr. Cleworth's group photographs. One Conference visitor amused a local official by informing him that it was the first conference at which he had partaken of the "the Bath water" as a luncheon beverage.

### Miscellaneous

**IN THE COURTS.**—At Blackpool Police Court, on July 28, Peter Mellor was sentenced to a month's imprisonment for being drunk and doing damage to a window at the shop of Taylors' Drug Co., Ltd., Church Street. The amount of the damage was stated to be £10 9s.

**GOVERNMENT ETHER AND GLYCERIN DISTILLERIES.**—The ether distillery at the Government's Gretna factory, withdrawn at the auction on July 25, was subsequently sold privately for about £20,000 to a Carlisle firm of contractors, Thomson & Sons. It originally cost £250,000. Only two bids were made for the glycerin plant. The higher one was £5,500, although the auctioneer assessed the scrap value alone at £10,000.

**ROYAL COMMISSION ON NATIONAL HEALTH INSURANCE.**—It is announced that the Royal Commission will commence to hold meetings for the hearing of evidence in October. Any persons or bodies desiring to give evidence should in the first instance communicate in writing with the Secretary of the Commission, Mr. E. Hackforth, the Ministry of Health, Whitehall, S.W.1, stating the main heads of the evidence they desire to submit.

**DRUG AND FINE-CHEMICAL WORKERS' WAGES.**—A conference was held in London, on July 29, between members of the Drug and Fine Chemical Manufacturers' Association, and representatives of the National Drug and Chemical Union. The Union's proposals, which affect several thousand workers throughout the country, were given in the *C. & D.*, May 3, p. 620. It was decided to

appoint a joint committee of employers and representatives of the Union to investigate the questions involved and to report.

**REXALL CONFERENCE.**—Recently, twenty-one Rexall delegates, representing Great Britain and the Irish Free State, met at Nottingham and founded a conference to assemble there annually, and thus form a link between the Rexall organisations throughout the British Isles. Mr. Harold Lomax (Liverpool) was elected secretary. Mr. W. C. Church, director of the United Drug Co., presided, and was supported by Mr. Martin L. Daniels (general manager). Steps were taken for propaganda during the winter.

**CHARGE OF FALSE PRETENCES DISMISSED.**—At Trowbridge Police Court, on July 24, Nathaniel Kritz, giving a London address, pleaded "Not guilty" to obtaining money by means of false pretences from Lily Remington (*C. & D.*, July 26, p. 114). Max Goldstein, trading in the name of Max Carl, London, said he was the proprietor of the "Pride of London Paste," a corn cure, with which he and his agents visited markets. The Accused: If Goldstein can call himself Max Carl I thought I could. The defending solicitor said that no trade name had been infringed, and submitted that there was no false representation, as the name "Pride of London" was not registered. The case was dismissed by a majority.

## Scottish News

### Brevities

Mr. Dudgeon M. Turnbull, chemist and druggist, has opened a business at 8 Sinclair Road, Torry, Aberdeen.

### Edinburgh

The annual meeting of the British Dental Association was opened in Edinburgh on July 29. Mr. J. S. Amore, Edinburgh, was welcomed to the chair. The chief subject discussed on the following day was Collar Crowns in Dentistry.

A two-days' conference on vegetative methods of plant propagation was held recently at the Royal Botanic Garden. An exhibition was held in the buildings demonstrating the various methods whereby plants can be grown from stem, root or leaf cuttings. Miss Oona Reid was to have submitted a paper on "Camphor Cuttings," but the President (Professor Wright Smith, F.R.S.E.) explained that Miss Reid had recently returned from a collecting tour in the Soudan, and the material was not sufficiently forward. At the conclusion of the meeting Mr. Rutherford Hill, Ph.C., proposed a vote of thanks to the President, and Professor Small, Ph.C. (Belfast) seconded.

### Fifeshire

Miss H. S. McLaren, daughter of Mr. J. B. McLaren, chemist and druggist, Kirkcaldy, has graduated M.B., Ch.B., of Edinburgh University.

An informative article, entitled "Claim Your Vote," by Mr. W. Smart, chemist and druggist, Buckhaven, appeared in the "Kirkcaldy Mail" recently.

At the annual conference of the Fife Bee-keepers' Association, on July 26, the chairman stated that Isle of Wight disease was still in evidence, but it was distinctly declining. As regards the honey prospects, a few weeks ago they were very good, but since then not much had been done in the way of honey-getting.

In his report on the health and sanitary conditions of the county for 1923, the medical officer, referring to Glenlomond Sanatorium, states that under the arrangements for domiciliary treatment additional nourishment was furnished to necessitous patients at a cost of approximately £11 18s. 6d. per month. Among the articles commonly supplied was cod-liver oil and malt. The scheme whereby the cost of drugs in the treatment of tuberculosis is defrayed by the county tuberculosis authority has now been in force for two years. During the eleven months in 1922 the expenditure proved com-



paratively small, books of prescription forms being furnished to medical practitioners on application only. During 1923 thirty practitioners prescribed for 262 patients at a cost of £190 11s. 10½d. The average cost of the prescriptions per practitioner was £6 7s. 0½d., and the average per patient was 14s. 6½d.

### Glasgow

Mr. Hubert Morris, druggists' sundriesman, 49 Jamaica Street, has executed a trust deed.

The next meeting of the tennis section of Glasgow Pharmacy Club will be held on August 5 in the courts in Meadowpark Street, Dennistoun, at 3 p.m.

Donald Macaulay, Ltd., Glassford Street, Glasgow, have been appointed representatives in Scotland of Lysol, Ltd., London, S.W.20, and are able to supply all preparations from stock.

The partnership of I. S. H. Benjamin & Son, sponge importers, 12 York Street, having been dissolved, Mr. M. L. Benjamin has joined M. L. Benjamin & Co., sponge importers, 52 Howard Street.

Mr. George Fraser (Gordon & Fraser, Ltd., Argyle Street), late of Aberdeen, who underwent a serious operation on June 6, is now progressing favourably, and will be spending the month of August at Dunkeld.

At a meeting of the council of the Glasgow and West of Scotland Aerated Water Association, held in Glasgow, recently, it was resolved to pass on to the retailer the tax which has been repealed by the Finance Act as from and after July 28.

## French News

(From the "C. & D." Paris Correspondent.)

M. LÉON DARRASSE has been elected President of the Wholesale Druggists' Association, in place of the late M. Michel.

AN EXTRAORDINARY CASE is reported from Clermont Ferrand, where M. Belonie, pharmacist at Saint Nectaire, Chevalier of the Legion of Honour, was tried for arson, on July 19. Last February an explosion, followed by a fire, occurred on the premises occupied by M. Auteroche, pharmacist at St. Nectaire. A hole had been drilled in the shutters of the shop, and inflammable liquids projected by a syringe into the opening. The two pharmacists being rivals, and M. Belonie having made unsuccessful attempts to buy M. Auteroche's business, suspicion was aroused, and confirmed by the fact that a centre-bit, purchased two days before the fire and fitting the hole in the shutters, had been discovered in M. Belonie's possession. The latter protested that he was innocent of the charge, and asserted that M. Auteroche himself had arranged the whole matter simply in order to throw discredit upon a rival. This view was developed by counsel for the defence, and evidently accepted by the jury, for, after a brief deliberation, they brought in a verdict of "Not guilty."

QUALIFICATIONS OF A LIBRARIAN.—"X-Rayser's" remarks as to the qualifications of a librarian recall to my mind the little speech made by Dr. Dorveaux on his retirement from the post of librarian to the Paris Faculty, to a pharmaceutical gathering. He could, he said, find only one explanation of all the flattering remarks made in a dozen previous speeches regarding himself, that he had the conviction that a man in his position should be the servant and guide of his reading public, and not a mere red-tape official. Besides being obliging and helpful, Dr. Dorveaux possessed a scientific training, was an amateur in historical lore, and knew practically every book under his charge. The absolute frankness with which he passed judgment on books was a result of his competence. "This history is mostly fiction but cleverly done;" "This man is sound, you can rely on his statements;" "A standard work;" "Take this one, *cum grano salis*; it is written to prove so-and-so." Such a guide, philosopher and friend is nowhere more necessary than in a large library devoted to a more or less abstruse branch of knowledge.

## American Notes

By "The Man from London."

DISTILLED WATER AS A THERAPEUTIC AGENT.—Clinical results obtained during the past four years have shown, according to Schatz, in "American Medicine," that the intravenous injection of distilled water in small amounts, doses varying from ½ to 5 c.c., constitutes a therapeutic measure applicable to a considerable number of pathologic conditions. The injections acted specifically in scarlatina, rheumatism in five cases, and old cases of discharging ears and nose, twenty-seven of diphtheria cleared up more rapidly than by any other treatment. Sterile freshly triple distilled water, chosen as representing water free from all impurities, was employed.

PHARMACY NOT A PROFESSION.—An effort was made recently to obtain recognition of the professional status of a young Russian pharmacist so he could land here, since the law expressly makes exception of members of the learned professions. But the reply from the immigration authorities at Washington concluded: "Graduate pharmacist not recognised as belonging to a learned profession and may not be admitted as such." F. Garrison, in the "American Druggist," recently said: "When pharmacists who sell hair curlers, egg dyes, hair-pins, handkerchiefs, milk, clocks, dolls, etc., are classed as professional men, then grocery clerks, hardware salesmen and cigar dispensers are entitled to the same classification."

HEADQUARTERS BUILDING FUND.—The 4,000 New York City and Brooklyn retail druggists, combined, have only subscribed the meagre sum of \$1,100.00 towards the Headquarters Building Fund of the American Pharmaceutical Association. This is a miserable showing indeed, as about 300 druggists of Minneapolis have subscribed \$12,075.00, and other large cities have done much better in proportion to the number of druggists than the much greater number of druggists of the biggest and richest city in America. It was stated recently at a meeting of the American Medical Association that every New York drug store was in the liquor selling business for the money there was in it. This may be so, but the majority of New York druggists undoubtedly conduct their business legally and honourably, although about 500 New York drug stores are merely opened for the sale of whisky.

CHLORINE GAS FOR INFLUENZA COLDS is stated to be used with a concentration of approximately 0.015 mg. per litre of air. Dr. Vedder and Dr. Sawyer reported in the "Journal of the American Medical Association" that a concentration of 0.02 mg. of chlorine per litre caused a slight irritation of the throat in some patients. The apparatus used is a portable chlorine-generating concern in the shape of a small cylinder containing liquid chlorine. The gas passes through a rubber tube to a glass cylinder filled with salt solution, and the discharge is so controlled as to give out into the atmosphere about 30 c.c. of chlorine at one time. An electric fan set beside the chlorine generator distributes the gas equally in the air of the room. The following reported cures have been obtained in some of the cases treated: Coryza, 74.2 per cent.; acute laryngitis, 78; acute bronchitis, 80; chronic rhinitis, 31.1; whooping cough, 88.8; influenza, 81.8.

HOW NOT TO MOVE STOCK.—Driven crazy, so it is claimed, by seeing so much dead stock upon his shelves, a New York druggist, recently, attacked the offending articles, knocked them off the shelves upon which they were peacefully being buried under the dust, jumped upon them and otherwise showed his deadly animosity upon goods that would not get a move on. This devastating work not satisfying his outraged commercial senses, he procured a revolver and opened a brisk fire upon his enemy, with the result of attracting a passing policeman. The officer no sooner put his head inside the store door when the druggist turned his gun upon him. An exciting duel was fought for some minutes, the druggist trying to pot the officer and the latter doing his best to "get" the dead-stock-crazy druggist. The battle finished in the defeat of the representative of pharmacy, who was carted off, wounded severely by a bullet, to the hospital.



## Legal Reports

**Arsenic in Borax.**—At Chadderton, Rochdale, recently, James W. Armitage, grocer, was summoned, under Section 6 of the Sale of Food and Drugs Act, 1875, for having sold borax found on analysis to contain 530 parts of arsenic per million. The facts of the case were not disputed. It was urged for the defence that Armitage had bought the borax as "commercial" borax from a reputable firm, and that he had sold only 18 lb. of it in three years. The Bench, without recording a conviction, ordered the payment of costs, the chairman adding that grocers and others should know something technical about their goods.

**Hair-Dye Cases.**—In Brighton County Court, on July 24, Mrs. Ruth Wollaston, Hove, was awarded £98 5s. as damages against James Cutler, hairdresser, Brighton, in respect of injury following the application of Inecto to her hair.—In the Court of Appeal, London, on July 25, Mrs. Louise A. Barber, St. Leonards-on-Sea, applied for a new trial, as between herself and Mrs. Ennis, a local hairdresser, of an action in which the appellant had been granted a farthing damages against the respondent (*C. & D.*, April 5, p. 478), contending that the damages were insufficient and that the jury had failed to take everything into consideration. The appeal was dismissed.

**Defective Electric Wiring.**—At West Ham Police Court, London, on July 29, F. W. Berk & Co., Ltd., manufacturing chemists, Canning Road, were summoned for neglecting to observe the Electricity Regulations, in that an electrical joint in a wire to an electric lamp was not of proper construction as regards insulation and protection. It was stated for the prosecution that on June 28 a workman was killed while attending to a belt, and it was subsequently found that a joint in an electric wire had been wrapped in insulating tape instead of being enclosed in a lead sheath. For the defence, it was stated that the rules of the factory forbade the man being in the position in which he was at the time in question. A fine of £94 10s., with £5 5s. costs, was imposed.

**Sale or Return.**—At Lambeth County Court, on July 18, before Judge Parry, the London Drug Co., Ltd., manufacturing chemists, New Park Road, Brixton, brought an action against W. G. Dyer & Sons, hairpin makers, 51A North Cross Road, East Dulwich, claiming £20 5s. 8½d. for goods sold and delivered. Albert Ellis, warehouseman, said he received the order for the goods from defendants. Part were delivered on sale or return within six weeks, but none were sent back. They were delivered in March, and had not been returned in November. Mr. Dyer, sen., said that no time for returning the goods was mentioned. They were sent to a customer, and, as they were unsatisfactory, he asked plaintiffs to call for them at his customer's shop, but they did not do so. He had not brought his invoices. Judge Parry, after inspecting plaintiffs' copy, said it specified that the goods must be returned in six weeks. Defendant said the disputed goods were bottles of scent. They were not up to sample, and some bottles were not full. Judge Parry gave judgment for plaintiffs for the amount claimed, £20 5s. 8½d., with costs.

**By-products at Provan Gas Works.**—In the Outer House, Court of Session, Edinburgh, recently, Lord Blackburn pronounced judgment in the action by Brotherton & Co., Ltd., ammonia and tar distillers, City Chambers, Leeds, against the Corporation of Glasgow. The parties were at issue as to the construction of an article of the contract which dealt with the price to be paid by the pursuers for the tar and ammoniacal liquor supplied to them by the defenders under the contract. Lord Blackburn repelled the whole of the pursuers' pleas in law, and assuozied the defenders, holding that the pursuers' construction of the article in the contract was erroneous. The First Division recalled this interlocutor, and remitted the case back to the Lord Ordinary for proof. Lord Blackburn, having heard a lengthy proof,

reached a conclusion in favour of the defenders, who were found entitled to expenses. It had been proved that the contract as a whole had been most remunerative, and his lordship thought the evidence led to the presumption that the part of the contract which dealt with the supply of ammoniacal liquor had been remunerative also. In any event his lordship was satisfied on the evidence that the proper construction had all along been placed by the arbiter on the sliding scale, and under these circumstances his lordship could only repeat his former interlocutor and assuozie the defenders.

**Interim Injunction Proceedings.**—In the Court of Appeal, on July 29, before Lords Justices Bankes, Scrutton, and Sargant, application was made on behalf of Clement & Johnson, Ltd., manufacturing chemists, Sicilian Avenue, W.C., and Mr. Joseph Gregoire Alexandre Clement, in connection with an action for alleged libel against The Associated Newspapers, Ltd., and others, to expedite the hearing of an appeal from the refusal of Mr. Justice Roche to grant an interim injunction restraining the repetition of the alleged libels or publication of similar libels pending the trial of the action. Mr. Robert Fortune, who appeared for the plaintiffs, said that attacks on Yadil had been going on in "The Daily Mail" for the past week, and the plaintiffs had commenced an action for libel against the defendants, the proprietors of "The Daily Mail," Sir William Pope, and Professor W. E. Dixon. Lord Justice Bankes: When once a man has said he is going to justify there is the end so far as an interim injunction goes. Mr. Fortune: The allegation of the plaintiffs in this case is over a dispute about advertisements in the paper, and this campaign was started in the paper five days ago against a preparation which has been sold with great satisfaction for ten years past. Lord Justice Sargant: Satisfaction to whom? Mr. Fortune: Satisfaction on the part of the public. After further discussion, the Court decided that the hearing of the appeal could not be expedited.

**Basic Slag Contract.**—This was an appeal from the Sheriff Court at Glasgow by the pursuers in an action by Hollingshurst & Co., Ltd., chemical manufacturers, 112 Fenchurch Street, London, against Samuel Pitt & Co., chemical manufacturers, 95 Bath Street, Glasgow, in which the pursuers claimed payment of £530 as loss which they suffered through the defenders' breach of contract. The pursuers averred that the defenders offered them 400 tons of basic slag produced by a firm who were not signatories to a control agreement with the Ministry of Agriculture, and were thus not permitted to export their basic slag. The pursuers ultimately bought in against the defenders, and in this action claimed the difference in cost which they had had to pay compared with the contract price. As the result of arbitration proceedings the oversman found the defenders were in breach of their contract and were liable in damages and the costs of the arbitration. No power was given to the arbitration tribunal to assess damages. Sheriff-substitute Blair assuozied the defenders from the conclusions of the summons, and found the pursuers liable in expenses, finding that the duty of the pursuers, when their contract with the defenders failed, was to cover with the same nature and quality of slag which had been sold by the defenders to them, viz., slag of the ordinary kind, purchased at a price not necessarily for export, or slag not guaranteed to pass on any licence granted by the Ministry of Agriculture. The Court sustained the appeal, recalled the Sheriff-substitute's interlocutor, granted decree for the sum sued for, and found the pursuers entitled to expenses. Their lordships were of opinion that what was contracted for was exportable slag, but that the obtaining of the licence was to rest with the pursuers, and that it was disproved that the pursuers could have obtained the slag at a lower price than the price which they paid.

**Chemist's Application for Rule Granted.**—In a King's Bench Divisional Court, consisting of the Lord Chief Justice and Mr. Justice Sankey, on July 31, Mr. R. Mitchell Banks, K.C. (with him Mr. H. Glyn-Jones),



applied for a rule *certiorari* calling upon the Minister of Health to show cause why an order made by him, on July 4, 1924, should not be quashed as being *ultra vires*. Mr. Banks said that the matter in question turned upon the interpretation of Section 15 of the National Insurance Act, 1911, and certain regulations made thereunder. Put in the shortest way, the case was this. Mr. Bull, on behalf of whom the rule was applied for, was a chemist in Plymouth, and had for a long time past been on the list of chemists undertaking to supply medicines, drugs and appliances to panel patients. Some time last year he was convicted under the Dangerous Drugs Act for failing to make proper entries in his registers of purchases dealing with "dangerous" drugs, and in consequence of that conviction the authorisation to him to deal in "dangerous" drugs was withdrawn. Then Mr. Bull received notice that the Minister of Health, under the National Insurance Act, thought that there were grounds for an inquiry. An inquiry was held, and the result was that the Minister struck Mr. Bull's name off this list on the ground that his continuing on such list would be prejudicial to the efficiency of the service. The reason, as appearing in the report of the inquiry, was because his authorisation to deal in "dangerous" drugs had been withdrawn, and he would not be in a position to fulfil his undertaking to the Insurance Committee, and therefore his continuance on the list would be prejudicial. "Our case," added Mr. Banks, "is that the mere fact that a chemist is unable to sell 'dangerous' drugs, or indeed unable to sell any particular class of drugs, is not a proper ground for saying that his continuance on the list is prejudicial to the efficiency of the service." The Court granted the rule.

**Irregular Sale of Poison.**—At Lancaster Castle, on July 26, Mr. Richard George Postlethwaite, chemist and druggist, Craven Buildings, Sandylands, Heysham, was summoned for not having obtained the signature of a purchaser of poison on July 9; and his assistant, William Wright, Lord Street, Morecambe, was summoned for aiding and abetting. Both were represented by Mr. T. P. Tilly. A police sergeant stated that in consequence of information that a man named Herbert Bentley had committed suicide by taking hydrocyanic acid, he visited the shop of Mr. Postlethwaite. Mr. Postlethwaite admitted a sale by his assistant, and witness asked to see the register. On examining the register he found an entry on the back of the last leaf of the book to the effect that Bentley had, on July 9, purchased 2 oz. of hydrocyanic acid. As the signature appeared to be in the same handwriting, he drew Wright's attention to it, and asked who wrote it. Wright said: "I did; it was a mistake. I should have asked him to sign it." Mr. Tilly said that unfortunately the Pharmacy Act, 1868, Section 17, made the chemist responsible for the mistake of his assistant or apprentice. That was the reason Mr. Postlethwaite, as the owner of the shop, was before them. Mr. Postlethwaite was in bad health on the day in question, and very much troubled about the health of his father, so that he was not able to get to his shop as early as usual. Bentley was served before Mr. Postlethwaite's arrival. The register was filled up with the necessary particulars; but the assistant, knowing Bentley, did not ask him to sign it. There was no camouflage about this entry—the assistant simply forgot to ask Bentley to sign. All other formalities were complied with. Replying to the chairman, Superintendent Jackson said there was no reason to doubt that the entry was made after Bentley's visit. Mr. Tilly mentioned that Mr. Postlethwaite had been in business twenty-three years, and had not had anything against him. This was an error by a respectable assistant with fifteen years' experience. Mr. Postlethwaite expressed regret. The chairman said it was the first case the magistrates had had before them of that kind. It was absolutely serious, and they could not impose a less penalty than 50s. in each case. The book should have been kept in a proper state. Mr. Tilly: A new book was just being started. The Chairman: It's an unfortunate concatenation of circumstances.

## Summer Outings

### Visits to Wembley

THE employees of Scott and Turner, Ltd., manufacturers of Andrews' Liver Salt, Newcastle-on-Tyne, visited the British Empire Exhibition at Wembley recently as the guests of the directors. Afterwards they were taken in charabancs around the principal places of interest in London.

THE employees of F. W. Hampshire & Co., Ltd., Riverside Works, Derby, had an outing to Wembley on July 19. A representative number availed themselves of Mr. F. W. Hampshire's invitation to luncheon at Shoolbred's Restaurant, London, before the party proceeded to Wembley. On arriving at the Exhibition grounds the gathering divided into smaller groups, some to view the exhibits in the wonderful pavilions, and others to sample the thrills found in the Amusements Park. Perfect weather favoured the outing, which proved a great success.

### Southampton Athletic Club Outing

ON July 23 the annual outing of the Southampton Chemists' Social and Athletic Club took place, when a party of fifty assembled at the Clock Tower and proceeded by way of Totton and Houndsdown to Beaulieu, in the New Forest. Arriving at 3 p.m., the cricketers commenced a match with the local team, the remainder proceeding to the park, and by permission of Lord Montagu went over the Palace House. Tea was provided at the Montagu Arms by the President of the club, Mr. W. W. Atkinson. At the conclusion of the repast the President welcomed the guests, and voiced the gratitude of the club to Lord Montagu, Captain Widnell (Lord Montagu's steward) replying, and Mr. Jewell thanked the President for his hospitality. Mr. Atkinson replied, and the company dispersed, the cricketers to resume their play, which resulted in a win for the local team by ten wickets. The rest of the party visited the Abbey under the guidance of Captain Widnell, who gave an interesting account of the history of the building.

### A Visit to Llangollen

THE annual picnic of the employees of Chrystoid (Chemists), Ltd., manufacturing chemists, 1-3 Gower Street, Bootle, Liverpool, was held on July 23. The party left at 1 p.m. by motor coaches, crossing the Mersey



THE PARTY AT LLANGOLLEN

by the Birkenhead Ferry, and travelling via Chester and Wrexham to Llangollen. Here an excellent tea was provided, after which the party, left to their own devices, spent a few pleasant hours in the town and surroundings. The outing was most successful, and an enjoyable day was spent.

DURING three weeks in July, the number of persons officially recorded as unemployed rose by 14,956, 1,449 and 15,807 respectively.

THE following are the figures for scheduled diseases officially recorded in Great Britain during the week ended July 26:—Swine fever, 18; anthrax, 12; foot-and-mouth disease, 18; parasitic mange, 8; sheep scab, 1.



## New Companies and Company News

P.C. means Private Company and R.O. Registered Office.

**GREENWICH MEDICINE CO., LTD. (P.C.).**—Capital £100. Objects: To carry on the business indicated by the title. The directors are: H. C. Stanhope Bedding, 47 Old Woolwich Road, East Greenwich, S.E.10, chemists' manager, and Miss M. O'Byrne.

**CONTINENTAL LABORATORIES, LTD. (P.C.).**—Capital £100. Objects: To carry on the business of importers and manufacturers of, agents for, and dealers in drugs and medical supplies, etc. The directors are: C. R. Simpson and R. L. Mason. Solicitor: R. L. Mason, 6 Great James Street, London, W.C.1.

**LLOYDS (PHOTOGRAPHIC MATERIALS), LTD. (P.C.).**—Capital £1,000. Objects: To carry on the business of manufacturers of and dealers in photographic materials of all kinds, lenses, cameras, chemicals, china, glass, earthenware, and enamelled goods, sensitised and other papers, etc. R.O.: 44 and 46 Wandsworth Road, London, S.W.8.

**MANETOR CO., LTD. (P.C.).**—Capital £2,000. Objects: To buy, sell and otherwise deal in cooling and heating bandages or compresses, and in particular a cooling or heating bandage or compress known as the "Manetor." The directors are S. Muntz, E. S. Muntz and W. C. Smith. R.O.: Record House, 13 Farringdon Street, London, E.C.1.

**RIDLEY & WILLIAMSON CHEMICAL CO., LTD. (P.C.).**—Capital £3,000. Objects: To acquire the business of manufacturing chemists now carried on at Scholar Green, Cheshire, as "The Border Chemical Co.," and to carry on the business of manufacturers, exporters and importers of, agents for, and dealers in horticultural, agricultural and viticultural chemists, insecticides, fungicides, veterinary remedies, sheep dips, colours, artificial manures, etc. R.O.: Scholar Green, Cheshire.

**INTERNATIONAL MEDICAL AND SURGICAL SUPPLY CO., LTD. (P.C.).**—Capital £15,000. Objects: To take over as a going concern the business carried on by Robert MacLeod at 31 Lincoln Place, Dublin, as "The International Medical and Surgical Supply Company," and to carry on the business of manufacturers of and dealers in anatomical, orthopaedic and surgical instruments. The directors are: J. Mackie, D. P. O'Connor, and R. J. MacLeod. R.O.: Trinity Chambers, 40/41 Dame Street, Dublin.

**SECOL, LTD. (P.C.).**—Capital £2,000. Objects: To acquire the undertaking of Secol, and all or any of its assets and liabilities, and in particular the recipes and full information as to the processes of manufacturing and the right to manufacture and deal in a certain antiseptic styptic for human use known as "Secol," and to carry on the business of chemists, druggists, chemical manufacturers and dealers, etc. The directors are S. C. Parkes and W. Hadley. Solicitors: Whitelock & Storr, 8 Bloomsbury Square, London, W.C.1.

**VIKING RENNET CO., LTD.**—A meeting of the creditors of this company was held recently at 2 Broad Street Place, London, E.C. The chair was occupied by Mr. W. H. W. Greenslade, who said that a private meeting of the creditors had been held (*C. & D.*, June 14, p. 825). The liabilities to creditors were about £3,600, while the net assets were now estimated to realise £600. The assets had increased in value, as an offer of £450 had been received for the plant, furniture, and stock-in-trade. A resolution was passed confirming the voluntary liquidation, with Mr. Greenslade and Mr. Sunderland as joint liquidators.

**PARREN'S PHARMACIES, LTD.**—A meeting of the creditors of this company was held on July 24, at Kimberley House, Holborn Viaduct, London, E.C. Mr. Parkin S. Booth, who presided, stated that he had been appointed as liquidator (*C. & D.*, July 19, p. 86). A statement

of the affairs disclosed liabilities £886 0s. 10d., made up as follows:—Trade creditors, £575 3s. 4d.; cash creditor, £298; bank overdraft, £12 17s. 6d. The assets consisted of:—Cash, £2; stock, £303 18s. 4d.; fixtures, £107 19s. 8d.; book debts, £30; making a total of £443 18s., from which had to be deducted £101 11s. for preferential claims, leaving net assets £342 7s. Mr. Booth stated that if it was possible to sell the business as a going concern, something might be obtained for the goodwill. The company was registered in March 1923, with a nominal capital of £500, but only three shares of £1 each had been allotted and paid for in cash. Those shares were held by Mr. P. S. Parren, Mrs. Parren and Mr. T. H. Williams, the latter having been the qualified manager of the business. Mr. Parren obtained a lease of the premises at Harrow Road in his own name for a period of twenty-one years; he also purchased fixtures, fittings and stock to the extent of £298, and was now a creditor for that amount. He had, however, agreed to withdraw his claim, and would also assign the lease of the premises at the direction of the liquidator. At the outset the turnover of the business was £20 a week, but it increased to £35 weekly. Insurance scripts averaged 400 a month. No books of account had been kept. It was hoped that Mr. Parren would be able to purchase the assets from the liquidator. In answer to a question, Mr. Booth said he proposed to advertise the business for sale in *THE CHEMIST AND DRUGGIST*. The creditors unanimously decided to confirm the voluntary liquidation, with Mr. Booth as liquidator. The following are among the creditors:—Acton Pill Co., £11; Ayrton, Saunders & Co., Ltd., £10; Butlen & Crispe, £50; Cupal, Ltd., £21; Evans Sons Lescher & Webb, Ltd., £55; Thomas Guest & Co., Ltd., £12; Thomas Hodgkinson, Prestons & King, £21; H. and T. Kirby & Co., Ltd., £15; May, Roberts & Co., Ltd., £72; James Rippin, £20; Yardley & Co., Ltd., £11.

**ENOLIN, LTD.**—A meeting of the creditors of this company was held on July 25 at 10 Coleman Street, London, E.C., when Mr. S. Jeffreys, who stated that he had been appointed to act as liquidator, presided. The liquidator said that the liabilities amounted to £906 18s. 6d., of which £509 11s. 9d. was due to the trade, while the directors were creditors in respect of fees for £394 10s. 4d. The assets consisted of:—Cash, £1 16s. 8d.; stock-in-trade, trade-marks etc., estimated to produce £300; stock estimated to produce £67 11s.; fixtures and fittings, £175; book debts put down at £120; and unpaid call and amount due on shares, £102, making the total assets £766 7s. 8d., from which had to be deducted £133 16s. 3d. for preferential claims, leaving net assets £632 11s. 5d. The estate showed approximately 13s. 11d. in the £, subject to the costs of realisation. The directors under the articles of association were entitled to £100 per annum. There were four directors, Messrs. Wilding, Penny, Kingdon and Jones. A creditor asked whether the directors were willing to withdraw their claims; but, as only one director was present, no definite answer could be given. The liquidator said that the sales of Enolin had been as much as between £23,000 and £17,000. The trustees sold the goodwill and what assets there were of Carreras; Messrs. Wilding & Kingdon bought them for £1,400, and sold them to Enolin, Ltd., for a similar amount. The capital of Enolin, Ltd., was £5,250, all fully paid with the exception of £100 due by one of the directors. The company did not manufacture its own paste, but had a contract with the Associated Products, Ltd. Accounts showed that for the period to December 31, 1923, the sales amounted to £1,548, on which a gross profit was made of £698. After deducting expenses there was a net loss of £2,608. The expenses did not include anything for directors' fees. Further accounts from December 1923, to May 28, 1924, showed that the sales were £559, on which, after allowing for expenses, there was a net loss of £858. The liquidator further stated that he had received two offers for the business as a going concern. A committee of three was appointed to confer with the liquidator. The following are among the creditors:—Associated Products, Ltd., £51; J. Townsend & Sons, £30; Venesta, Ltd., £14.



## Insurance Act Dispensing

Record of matters concerning Chemists' interests in the National Health Insurance Acts.

### ENGLAND AND WALES

#### Local Reports

**Exeter.**—A meeting of the Devon Pharmaceutical Committee was held on July 16, Mr. J. E. Calkin in the chair. A letter was read from the Ministry of Health that where a chemist has inadvertently dispensed a prescription issued in the area of another Insurance Committee the Minister is prepared, as an exceptional measure, to sanction payment from the General Purposes Fund if the committee desire to recommend such a course. The reports of the Central Checking Bureau for December, January and February were approved.

**London.**—A meeting of the Pharmaceutical Committee was held on July 17, Mr. C. A. Noble presiding. The report of the Central Checking Bureau for the month of March, 1924, showed that the margin of error in pricing was 0.06 per cent. The secretary gave particulars relating to the new dispensing terms which came into force on May 1; the results of inquiries made in two cases of alleged inaccurate dispensing; particulars of the action taken with regard to an irregular contract, also difficulties relating to certain establishments of a limited company; and information regarding the Insurance contract of a chemist whose authorisation under the Dangerous Drugs Acts Regulations had been withdrawn. The secretary was instructed to write to the Pharmaceutical Society regarding exempted preparations under the Dangerous Drugs Acts Regulations.—At a meeting held on July 15 Mr. A. R. Keith was appointed Chairman, Mr. J. A. Thompson Vice-Chairman, and Mr. G. A. Tocher was reappointed Secretary. The retiring Chairman, Mr. C. A. Noble, was accorded a vote of thanks for the able manner in which he had fulfilled his duties as Chairman during his year of office. This was carried with acclamation, and Mr. Noble replied. The various Sub-Committees were then appointed. The report of the Central Checking Bureau for the month of April, 1924, showed that the margin of error in pricing was 0.03 per cent. The Secretary gave particulars of the joint conference between the Panel and Pharmaceutical Committees on the proposed revision of the London Insurance Pharmacopoeia. The Special Sub-Committee on Insurance Dispensing reported particulars of the action taken with a view of maintaining an efficient and satisfactory service. The draft annual report was approved and adopted for circulation to chemists on the Panel.

**Middlesex.**—At a meeting of the Pharmaceutical Committee, held on July 16, Mr. C. W. Andrew was unanimously re-elected as *Chairman*, Mr. Thomas Marns as *Vice-Chairman*, and Messrs. Batley and Downing as *Auditors*. Mr. Hugo Wolff was reappointed *Secretary*, and Mr. Humphrey as *Supervisor*. The various sub-committees were formally reconstituted, and the draft annual report was approved and ordered to be circulated. Various communications from the Middlesex Insurance Committee and the Retail Pharmacists' Union were considered, and the supervisor's report was received and discussed. This included the following particulars: The average total cost per insured person was 10.7d. for the first quarter of 1924, against 28.0d. for the whole of 1923. Dangerous drugs prescriptions were found in a recent investigation to amount to 22,798 out of 124,583 examined, equivalent to 18 per cent. Middlesex chemists usually date such prescriptions correctly. During the first quarter of 1924 insulin was ordered 162 times, at a total cost of £137 5s. 4d. Middlesex insulin bill for 1923 was £260 7s. 3d. Recent disallowances in the South-Eastern district were for brushes in 87 out of 256 instances, but also included Benedict's Solution, Comedo Extractors, sputum tubes and boxes, trachea tubes, Virol and milk, watch-spring pessaries, Fehling's Solution, and nutrient suppositories. The total disallowances in 1923 were 842, of which 299 were brushes of one kind or another. Other items disallowed were classified as (a) articles in the nature of foods, (b) testing solutions,

and (c) appliances not included in the Second Schedule to the Regulations. Expensive Middlesex prescriptions, costing over 10s., included two for anti-catarth vaccine at 21s. each, and one for absorbent gauze, 21 lb., priced at 21s. 6d.

1924	Prescriptions	Average cost	Drugs	Fee
January ..	162,728	8.80d.	4.42d.	4.58d.
February ..	167,662	8.83d.	4.22d.	4.61d.
March ..	162,880	8.86d.	4.30d.	4.56d.
April ..	117,967	8.92d.	4.42d.	4.50d.
May ..	111,411	8.95d.	4.43d.	4.52d.

#### Statistics for First Quarter of 1924

Number of prescriptions ..	..	..	493,270
Total value ..	..	..	£18,158
Average cost per prescription ..	..	..	8.8d.
" ingredient cost ..	..	..	4.2d.
" dispensing fee ..	..	..	4.6d.
Number of insured persons ..	..	..	407,973
Frequency per insured person ..	..	..	1.2

#### Comparative Figures for the Years 1922-23

	1922	1923
Number of prescriptions ..	1,200,682	1,290,595
Total value ..	£45,023	£46,613
Average cost per prescription ..	9.0d.	8.7d.
" ingredient cost ..	4.1d.	4.2d.
" dispensing fee ..	4.9d.	4.5d.

#### July Drug Tariff

The following are the alterations for July in the Insurance Drug Tariff for England and Wales:—

**Lower.**—Acetum ipecac., 2s. 6d. lb.; acid. boric. cryst., 11d. lb.; acid. boric. pulv., 1s. lb.; acid. salicylic., 3s. 3d. lb.; anthem. flor., 4s. 6d. lb.; aq. camph. ex conc., 5s. lb.; barbitonum, 2s. 2d. oz.; caffein. cit., 1s. 1d. oz.; capsulae amyl. nitris, m3, 2s. 2d. doz.; ditto, m5, 2s. 2d. doz.; dec. hamatox., 2s. 8d. lb.; ext. aloes pulv., 4s. 3d. lb.; ext. bellad. sicc., 1s. 3d. oz.; ext. grindel. liq., 6s. lb.; glycer. boracis., 1s. 9d. lb.; inf. ros. acid., 3s. 8d. lb.; inf. scoparii, 2s. 8d. lb.; lin. tereb. aet., 2s. 8d. lb.; liq. formaldehyd., 1s. 4d. lb.; liq. morph. acet., 7s. 3d. lb.; liq. morph. hydrochl., 7s. lb.; liq. opii sed., 10s. lb.; liq. strych. hydrochl., 3s. lb.; menthol, 6s. 3d. oz.; methyl. salicylas, 4s. 6d. lb.; ol. anisi., 4½d. oz.; plumbi acet., 1s. 2d. lb.; pulv. glycyrrh. co., 1s. 3d. lb.; pulv. ipecac. co., 8s. 6d. lb.; pulv. tragac. co., 3s. 4d. lb.; saccharum purif. pulv., 7½d. lb.; saccharum lact. pulv., 1s. 5d. lb.; spt. cajuputi, 8s. 6d. lb.; sulphonat., 2s. 1d. oz.; sulphur. præcip., 1s. 3d. lb.; sulphur sublim., 5d. lb.; syr. ferri. phosph. co., 1s. 1d. lb.; syr. ipecac., 2s. 6d. lb.; syr. papaveris, 1s. 7d. lb.; syr. scillae, 1s. lb.; syr. toluat., 1s. 4d. lb.; tr. cinchonae, 5s. 6d. lb.; tr. colchici, 6s. 6d. lb.; tr. nucis vom., 4s. 6d. lb.; ung. calaminæ, 2s. 3d. lb.; ung. gallæ c. opio., 6s. lb.; ung. methyl. salicyl. co. dil., 6s. lb.; ung. methyl. salicyl. co. ft., 15s. lb.; ung. simplex, 3s. 2d. lb.

**Higher.**—Copaiba, 3s. 6d. lb.; ext. cannab. ind., 18s. 6d. oz.; ext. coloe. co., 7s. lb.; ext. ipecac. liq., 1s. 10d. oz.; pulv. lobeliae co., 3s. 6d. lb.; sennæ fruct. timev., 3s. lb.; spt. æther. co., 9s. lb.; spt. ammon. arom., 4s. 3d. lb.; tr. cannab. ind., 26s. lb.; tr. guaiaci., 8s. lb.; tr. lobeliae, 5s. 9d. lb.

#### Inquiry about a Panel Chemist

THE Minister of Health has considered the report of the Inquiry Committee to deal with the case of W. R. W. Bull, 12 Hyde Park Terrace, Plymouth, and in view of the findings the Minister is satisfied that the continuance of Mr. Bull on this list would be prejudicial to the efficiency of the service, and has accordingly decided to remove the name of Mr. Bull from the list as from August 1, 1924. If Mr. Bull applies to the Committee for inclusion in the list as a person undertaking the supply of appliances and drugs other than scheduled poisons and medicines which require to be dispensed the Minister would be prepared to give a direction authorising his name to be included in the list for that purpose. The inquiry was held following a conviction, at the Court of Petty Sessions, Plymouth, against Mr. Bull for having failed to enter in his register a record of his supplies and dealings in drugs to which Schedule 1 of the Dangerous Drugs Act applies. The Secretary of State had thereupon withdrawn authorisation for Mr. Bull to be in possession of and supply such drugs.



## An Insurance Symposium

THE annual meeting of the British Medical Association was held last week at Bradford. The Section of medical sociology on July 24 had a discussion as to whether the National Health Insurance Act has justified itself. Dr. Arthur Manknell, the President of the Section, in opening the discussion, said that under the National Health Insurance system the family touch is lost and less is now heard of the patients that would rather pay than receive treatment under this system. The panel system is now more elastic, owing to the recent extension of the principle of free choice of doctor.

Sir William Glyn-Jones, who was elected a Vice-President of the Section, followed with a paper dealing with the administration by Insurance Committees. Whilst not claiming that there is no room for improvement, he asserted that in the mass insured persons are getting much better attention and medicine, and the medical profession as a body is receiving from the insured portion of the population a bigger income than was the case in pre-Insurance Act days. In 1922 insured persons were paid over eight million pounds in sickness benefit, and more than three and a quarter million pounds in disablement benefit; whilst it is estimated that over six million persons received medical treatment, involving forty-four million attendances. Maternity benefit has proved an undoubted boon. Sanatorium benefit is no longer a part of the scheme, but the special provisions relating to tuberculosis, incomplete as they were, enabled a substantial advance to be made in the prevention and treatment of that great scourge, and laid the foundation for, and made possible, the larger and extended efforts now organised by the public health authorities, so that the measures available under the Insurance Act to insured persons are now available to the whole community. The Insurance Committees have played a great part in organising the various benefits, but it was obvious that Parliament intended that the Committees should be more than organisations for the administration of medical benefit. The committees have had little to do with questions of policy; they have in fact policed the scheme, a function which should have been subsidiary to far more important duties. Whilst the National Health Insurance system has justified itself, it has far from fulfilled the promises made to induce Parliament and the country to establish it. The elaborate Insurance Committee organisation is not justified; the clerks, with the occasional help of a magistrate, could do the work which is now discharged by these committees. The committees were devised to carry out other functions by means of which the national health was to be greatly improved, to be the statutory health authority for the area. To all intents and purposes important sections of the Act, containing in the main the preventive features of the Bill, have become more or less a dead letter. In one of the letters of the Ministry of Health to the British Medical Association it is seen that the Ministry is alive to the value of preventive methods, which have "not yet developed very far." The paper ended with Sir William's recipe for a good service, which was to provide such conditions of, and remuneration for, medical treatment under the scheme as will result in practitioners being as anxious to secure and to retain Insurance patients as they are where private patients are concerned. If, in addition, the insured person is so educated that he can recognise efficient treatment, then with the patient's freedom of choice and right to change, you can in the main leave the rest to the forces of competition and the ordinary laws of supply and demand.

Alderman F. Askew, J.P., dealt with the question of approved societies. After reviewing the various activities brought into being by the Act, he affirmed unhesitatingly that the system has justified itself; the results are such that the insured population would never vote for a repeal of the Act. It was admittedly a daring experiment in British legislation, but its influence and general results are such that any idea of repeal or of a turning back on this road of beneficent social reform would be unlikely, unthinkable, and unwise.

Mr. T. Harland and Miss Florence Godfrey dealt with the question from the point of view of insured persons.

Dr. Alfred E. Barnes, dealing with the medical side as a consultant, said the serious tendencies are the increasing use of drugs, the increase in neuroses, and the lack of consultant facilities. The bottle of medicine habit was not caused by the Insurance Act, but it has been fostered. The bottle of medicine is only a symbol, but it has become an idol. The Greeks of two thousand years ago rightly believed that diagnosis, prognosis, diet and regimen were the really important things in medicine, but to-day we have the strange anomaly that the proper working of the Act is judged largely by the promptitude with which John Smith receives his bottle of medicine. The nation as a whole believes that the bottle of medicine is a convenient means of avoiding the results of all forms of sin against the laws of hygiene, and obviates in a simple and convenient manner the necessity for regimen and diet. This bottle superstition will be difficult to eradicate. The last person who ought to take drugs is the chronic complaining neurotic, but under present regulations it would be highly dangerous for a panel practitioner to refuse him his bottle. There should be some means whereby the approved society can ask a doctor to have any patient examined by any other doctor. When there is a transfer from one doctor to another the doctor should indicate whether the transfer was in consequence of the refusal of a certificate. The use of drugs should be discouraged as much as possible.

Mr. G. B. Hilman discussed the matter as a general practitioner. He was convinced that in the great majority of cases the practitioner has given his best service to his insured patients. From his recollections of conditions before the Act he preferred the post-Act liberty given to the doctor to the pre-Act servitude.

The hospital view was given by Mr. H. S. Souttar, of the London Hospital, and Mr. J. J. Barron, of Bradford. Preventive medicine was the topic entrusted to Mr. J. J. Buchan, of Bradford.

## Retail Pharmacists' Union

**Cardiff.**—The annual meeting of the Cardiff branch was held recently, the President (Mr. Leo Joseph, J.P.) in the chair. The annual report was read; the financial year ended with a balance of £11 14s. 9d. The election of officers resulted as follows:—*President*, Mr. Jabez A. Jones; *Vice-President*, Mr. J. D. Jenkins; *Treasurer*, Mr. D. Brims; *Secretary*, Mr. Ernest Ward, Upper Waterloo Road, Penylan, Cardiff; *Committee*, Mr. S. W. Hague, S. H. Willis, S. B. Eason, Reg. Davies, H. F. Davies, J. Murray, and J. Mason.

**Leamington.**—The Warwickshire Branch met recently, Mr. Hutton presiding. The secretary was instructed to communicate further with certain firms who had not yet adopted the official Proprietary Articles Trade Association protection scheme, also to ascertain from the R.P.U. whether it would be possible to adopt some simpler nomenclature in the combined price list. The Branch expressed their appreciation of the action of the proprietors of Woodward's Gripe Water in response to their request. The secretary reported the action that had been taken in support of the perfumery manufacturers' amendment to the Finance Bill, and that favourable replies had been received from the six members of Parliament approached. It is proposed to apply for a further subscription to the branch next year. Business introduced by members included: sale of disinfectants by unqualified vendors; the effect of the new methylated spirit when used externally; high prices of medical labels; the danger of using medicine bottles for camphorated oil. The secretary was in each case instructed to take appropriate action and report at the next meeting. Mr. Nundy gave a report of the meeting at Shrewsbury on July 3, and consented to act as their delegate at the Shrewsbury meetings for another year. The Branch hope that some simple mark may be adopted to distinguish P.A.T.A. protected articles.





# BRITISH EMPIRE EXHIBITION

## Described and Illustrated

### V

#### Aromatic Chemicals

THIS section is devoted mainly to aromatic organic chemicals used in perfumery and the manufacture of dyestuffs. Coal tar is the *fons et origo* of many industries, but perfumery chemicals, as mentioned in our first Exhibition article, are an extension of the chemistry of the essential oils, though synthetics derived from natural and artificial sources are ever increasing in number. Since, however, natural odours still predominate over artificial aromas, we shall, before passing to coal-tar chemistry, describe exhibits relating to

#### PERFUMERY CHEMICALS

W. J. Bush & Co., Ltd., take the place of honour as producers of perfumery chemicals, and illustrate how impossible it is nowadays to say with these where Nature ends and chemistry begins. A model of a still made by C. P. Garratt in 1850, and used for distillation of essential oils, recalls the original source of all odoriferous products; but nowadays even products like menthol and thymol are likely to be synthetic. The range of artificial perfumes and odorous bases shown is bewildering in their variety. Closest to Nature are anethol, benzaldehyde, coumarin, eugenol, heliotropin, safrol, thymol, vanillin. Citronellol, geraniol, geranyl, butyrate, ethyl pelargonate show progressive changes in one direction, and amyl acetate, amyl butyrate, amyl valerianate, amyl benzoate, transpositions in another by varying the acid in the amyl esters. Allyl alcohol, phenyl ethyl alcohol, cinnamyl alcohol, acetophenone, are examples from the basic odours. Then there are the pure synthetic odours, such as ionone (artificial violet) and musk ambrette. Again, the whole of one side of a case is devoted to Bush ottos or synthetic flower oils, the fifty-odd kinds including rose, violet, opopanax, mimosa, jasmin, new-mown hay, oriental poppy. Artificial oil of winter-green (methyl salicylate) brings us half-way back to medicine, which is also represented by salicylic acid and chloroform. Original packages of vanillin, terpineol, and heliotropin are plentifully shown to familiarise Bush

brands to such oversea visitors as may not already know them.

A similar difficulty in specifying the actual variety of perfumery chemicals is met with at the stand of Boake, Roberts & Co., for though initially these are simple enough (menthol, thymol, anethol, camphor), they soon begin to get more technical as geraniol from citronella oil becomes geranyl formate or geranyl propionate. Rhodinol, eugenol, citronellol, cinnamic aldehyde, ionone, propyl alcohol, benzyl benzoate, ethyl phenyl acetate and paraldehyde will serve to show the extraordinary range of these chemicals, both in odour, use, and chemical composition and production. To these must be added many artificial flavourings and colours.

The Chemical Supply Co. also exhibits some synthetic perfumes and safrol among a display of industrial and pharmaceutical chemicals.



EXHIBIT OF BURT, BOULTON & HAYWOOD, LTD.

#### CHEMICALS FROM COAL TAR

The Graesser-Monsanto Chemical Works, Ltd., provide the connecting link between chemicals used in perfumery and coal tar chemistry proper in their stand, which is labelled "Our Contribution to the Industry of the Empire." Thus vanillin is a Monsanto product from clove oil, while saccharin is wholly artificial. Actually a lump of coal surmounts the stand, which symbolises the stages of coal tar purification and separation of phenols and cresols for use as antiseptics. Phenol itself is shown as pure detached crystals (melting at 40-41° C.), and also as B.P. acid. carbolic. liq. The crude brown carbolic acids (50's and 60's) are placed high up near the coal tar, while pure cresylic acid, refined and pale cresols, are on the same level as the phenols. The state of present-day chemical manufacture from these products is depicted by salicylic acid, acetylsalicylic acid, and picric acid from phenol, and acrosyl (saponified cresol or lysol), and ortho cresotinic acid from cresols. The separated *orthocresol* (liquid), *paracresol* (m.p. 29-31° C.), and *metacresol* (m.p. 98-100° C.) are also on view. Finally, soluble creosote leads to sheep dips.

Synthite, Ltd., connects aliphatic and aromatic chemistry in making synthetic resins from formaldehyde



and phenol, while paraformaldehyde shown in their enclosure brings in disinfectants.

The South Metropolitan Gas Co. brings us to coal tar chemistry proper, for the big modern gasworks is also an organic chemical factory. The stand in itself symbolises the importance of the benzene ring in the products therefrom, because this is the nucleus of "aromatic" chemicals. Four octagonal cabinets contain various grades of coal tar, and distillates therefrom, including benzols, toluols, cresols, naphthalenes, and dye intermediates. Ammonium sulphate bulks largely, as would be expected, while copperas (iron sulphate) and copper sulphate shows that some inorganic chemicals are by-products of gas-making.

The Gas Light and Coke Co. also make a comprehensive display of coal tars, pitches, creosotes, and products therefore. Cut-glass containers, containing the purified benzols, toluols, xylols, as also pure carbolic acid and cresol, contrast strongly with the dark crude tars.  $\beta$ -naphthol illustrates that gasworks produce is not merely a question of distillation and fractionation, but that synthesis enters more and more into giving medicine and the colour industry exactly what they want.

The whole object of gas works chemistry is to prevent accumulation of any one product, such as naphthalene. Hence the search for outlets and the separation of distillates into an ever-increasing number of preparations.

Hardman & Holden, Ltd., in their display illustrate that making of intermediates for dye production from coal-tar products is an industry in itself. Crenaphthalene and carbazole are examples of this specialised chemical manufacture.

Burt, Boulton & Haywood, Ltd., might be said

to begin where the gasworks leave off, though actually the overlap is considerable in tar distillation. The utilisation of coal tar products as disinfectants and preservatives is the theme here, though a new chapter on colloidal chemistry has also been added to industrial progress. The enormous extent of the tar-distilling industry is best realised from the model plant on the stand of the Associated Midland Tar Distillers. This represents a battery of four 800-gallon stills, which will work 100 tons a day of crude tar to pitch. Another model here of a creosoting plants shows that modern methods of wood preserving are as rapid as they are thorough and economical, no matter whether timber is seasoned or wet. Compared with these huge plants, the consumption of the more mundane coal tar (laine) disinfectants, naphthalene balls, and sulphur candles would by contrast appear small; but everyday use everywhere make the bulk requirements big also. Colloidal sulphur for use as an insecticidal plant spray and sheep dip was most prominent among a new series of colloidal suspensions, ranging from lead chromate to bitumen (for dust laying).

Newton, Chambers & Co., Ltd., connect coal and coal-tar industry in one firm. A huge bottle of Izal germicide occupies the centre of the stand, and streams of this white disinfectant appear to be streaming all over

illuminated globes placed at each corner of the stand, an indication no doubt of worlds purified by Izal. Models in front illustrate why droplets of Izal and water emulsions are stable under condition where ordinary carbolic disinfectants break down and separate. The illuminations are elaborate, and this stand is a conspicuous feature in a crowded section.

Jeyes' Sanitary Compounds Co., Ltd., are other specialists in disinfectants, who illustrate the Rideal Walker method of standardising disinfectants, no doubt because this firm were pioneers of disinfectants of proved bactericidal value. Bacterial cultures emphasise the need for the use of cyllin and Jeyes' fluid for protection against infection.

#### DYES

Dyes are undoubtedly the most important coal tar derivatives, and, as judged by the exhibits, it has attained a stage of technical development which can compete with the best German products, so long as these are not subsidised by money exchange or low labour charges. The British Dyestuffs Corporation certainly eclipses all others in brilliancy of colour contrasts. A

central light-house flashes colour messages around, calling attention to the glowing sheens of silk and satins. Even the rubber floor covering is bright with British dyes. The exhibit is also educative of what production of a colour entails by means of factory models. Thus chlorazol blue B. from benzidine and H. acid (amido-naphthol disulphonic acid) is seen to require quite a series of chemical processes, such as nitration and sulphonation; but not only is the sequence of these indicated, but the actual arrange-

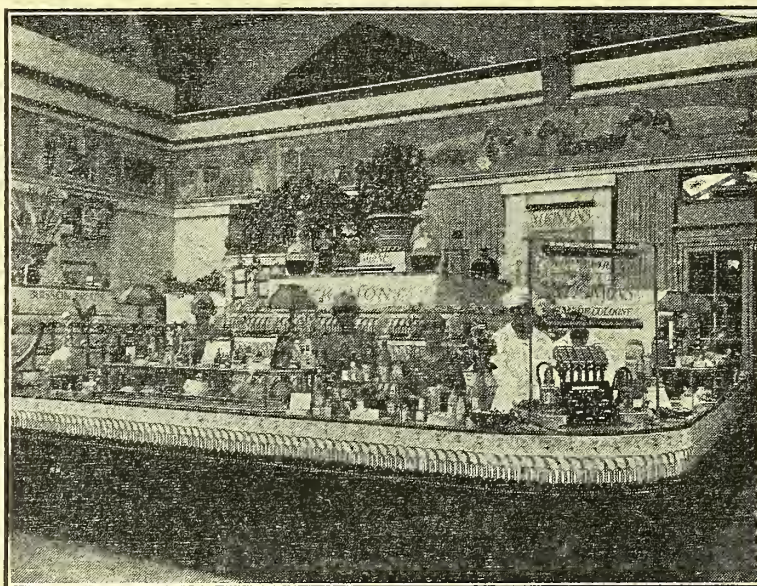


EXHIBIT OF J. & E. ATKINSON, LTD.

ment of vats and vessels is made to scale. Some of the intermediates and dyes are used in medicine and photography, so that products, such as salicylic acid and acriflavin, are among the specimens shown in bottles. This is an exhibit providing quite a study in itself of colour and the products into whose constitution it enters.

There are quite a number of dye specialists, such as the Clayton Aniline Co., Ltd., L. B. Holliday & Co., Ltd., and the British Alizarine Co., Ltd., each of which have varicoloured stands, proving that three primary colours, or even a seven-coloured spectrum, does not represent a tithe of what colours can be. Williams Bros. & Co. devote much of their space to harmless dyes for colouring foodstuffs.

Progress in regaining British prestige in the dye industry is greatly in evidence in this section.

#### Photographic Chemicals

Johnson & Sons (Manufacturing Chemists), Ltd., are exponents of the advances made during the Great War in the production of photographic chemicals. Silver nitrate is one of the pre-war chemicals. Sodium sulphite, iron perchloride and fusible metals are other inorganic products specially purified for photographic purposes. The great advances, however, are on the organic side. Thus



pyrogallic acid is shown, both in fluffy and heavy crystals, and also the gallic acid it is made from. Glycin, para-amidophenol, and metol are more ambitious photographic developers made by this firm, who also give a modest display of packed developers, etc., among which Azol and Scaloids stand out.

J. Rose, Barking, shows what a short step it is from galls to gallic acid, and thence to pyrogallic acid (technical and pure qualities). Gallamide is a further chemical development.

### Chemical Apparatus

is represented in the Chemical Section by W. J. Fraser & Co., Ltd., Dagenham. A high-pressure unit for the synthesis of salicylic acid recalls how the wartime manufacture of this particular product has been restricted by severe competition from abroad. A big piece of plant is a 1,000-gallon high-pressure autoclave with oil bath for high-temperature reactions such as are used in sulphonating dyes. Considerable enterprise has been shown with this exhibit, as normally such apparatus is only designed to specification. There is also a half-gallon autoclave for pressure up to 1,000 lb. per sq. in. Stills for rectification of alcohol and vacuum apparatus are made by the company. An experimental industrial still is a novelty, as it can be used as an autoclave (compression type), vacuum still, or fractionating apparatus and heated by gas, steam, or oil. A portable mixer for temporary attachment to steam pans, etc., shows how superior a small mechanical attachment is to hand stirring and stirring of contents.

Baird & Tatlock, Ltd., have the most comprehensive collection of scientific apparatus. *De luxe* types are much in evidence; thus there is a whole battery of electrically heated Kjeldahl apparatus for nitrogen determination. Electrometric titration apparatus gives the up-to-date touch. Viscometers for lubricating oil testing, aklino-stats for physiological botany, Haldane apparatus for gas mixing, centrifuges and microscopes, and for bacteriological work, show that there are many sections of science to be catered for. Chemistry itself has stills, flasks, and apparatus innumerable. The variety represented is surprising, and includes chemical and microscopical reagents.

F. W. Becker also display chemical ware (condensers, fractionating heads), and scientific apparatus (including electrical instruments).

### Other Exhibits

of interest in the chemical dyestuffs and perfumery section are those of:

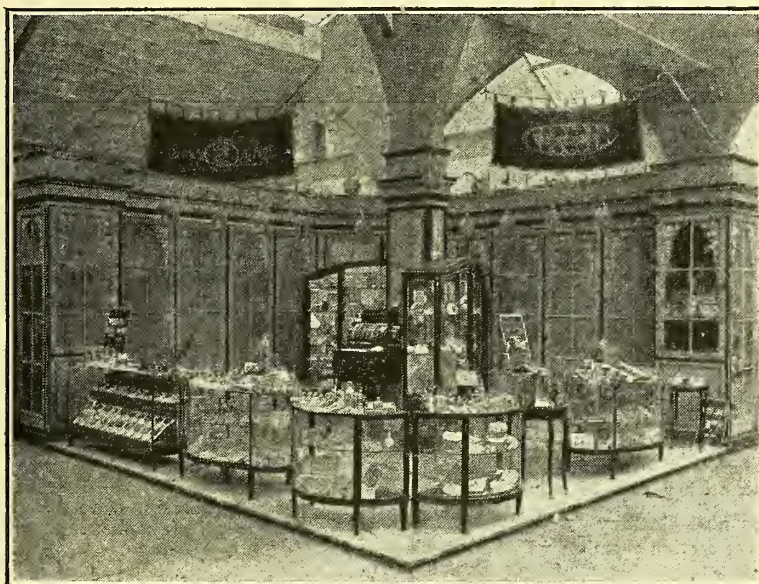
Anzora Perfumery Co., Ltd.; J. & E. Atkinson, Ltd., whose show of lavender water, soaps and bath salts is proving highly attractive; Badminton Distemper Cure Co., Ltd. The last-named company claim that over 90 per cent. of the cases in which Lintox is used cures

are effected, and among the testimonials received is one from the Duke of Beaufort, which is of especial interest in view of his association with the Distemper Research Fund. J. C. Bottomley & Emerson, Ltd., have a display consisting chiefly of dyestuffs, and a few other chemicals, including Glauber's salt and nitric acid. At the perfumery exhibit of W. & J. Bush, Ltd., the chief lines of interest are Devon and Devonetta violet perfume, Oriental poppy perfume and Potter & Moore's lavender water, soap and sachets. Among the resins and gums of pharmaceutical interest shown by R. Ingham, Clark & Co., Ltd., are benzoin, copal, mastich and shellac. The Cromessol Co., Ltd., call attention to their fragrant yet powerful disinfectant, which is stated to consist of essential oils of flowering plants and formaldehyde, and to be six times stronger than carbolic acid. In addition to shaving and other soaps, Joseph Crossfield & Sons, Ltd., are showing waterglass, caustic soda and glycerin. Perfumes, soaps, powders and puffs are displayed with great effect at the combined stands of Cussons, Sons & Co., Ltd., and Piesse & Lubin, Ltd. The soap-bubble fountain arranged by Erasmic Co., Ltd., is attracting great attention, particularly when illuminated at night-time. The

fountain adjoins the company's stand, where the advantages of using their well-known toilet preparations are competently advocated. The milling, cutting and packing of cold-cream soap are being demonstrated by D. & W. Gibbs, Ltd., and judged by the number of visitors is an excellent form of advertisement. Herbert Green & Co., Ltd., have a stand devoted to alcohol as a solvent. Besides rectified spirit, both coloured (mineralised) methylated spirit and uncoloured industrial alcohol are shown.

Wood naphtha, mineral naphtha, and pyridine denaturants used are included also. Amyl alcohol (fusel oil) and solidified alcohol are other products of interest. The stand of Lever Bros., Ltd., is concerned mainly with Sunlight soap and Twink dyes. J. W. Lightbown & Sons call attention to Grips first-aid pastilles, and the C. & D. representative was informed that new business had been opened up overseas as the result of the exhibit. C. R. Harker, Stagg & Morgan, Ltd., have confined their display to Peldo. Eugene Rimmel, Ltd., who are showing specimens of most of their products, state that the old favourites, oatmeal powder and toilet vinegar remain as popular as ever. Silk's Toilet Co. emphasise the virtues of Silkodono, and in this connection are distributing Silkodono perfumed cards. Attention is also drawn to other of the firm's preparations for the hair, and their display of powder bowls, perfumes and sprays.

Nobe! Industries, Ltd., form a section of the Palace of Industry to themselves, and among the products of the various companies shown are a number of acids and chemicals for industrial purposes and fertilisers, dips and disinfectants from South Africa and Australia. There are also collodions for various purposes, including Necoloidine, which is used in microscopy, surgery and photography.



STANDS OF CUSSONS, SONS & CO., LTD., AND PIESSE & LUBIN, LTD.



### Food Products and Beverages

The stand of Benger's Food, Ltd., has a decidedly pharmaceutical appearance, as not only are infant and invalid foods displayed, but the well-known liq. pepticus and liq. pancreaticus, together with liq. thyroïdin, red marrow extract, rennet and pepsin, and other pills, occupy prominent positions. Among an array of liqueurs presided over by a beefeater, James Burrough, Ltd., show samples of absolute alcohol, and at a stand near by J. W. Bush & Co., Ltd., have an interesting exhibit of colourings and flavouring essences. In addition to showing mineral waters, Camwal, Ltd., feature Aquaperia salts. Olive oil, salad dressing and Yorkshire Relish are to be found at the stand of Goodall, Backhouse & Co., and the nourishing properties of Horlick's Malted Milk may be sampled at the firm's stand, while Idris & Co., Ltd., have a display embracing a full range of their mineral waters, fruit syrup and other specialities.

### Rubber and Scientific Instruments

The progress made in the rubber industry of late years and the part played by the chemist in the advances can hardly fail to be appreciated, even by the casual observer. This progress is perhaps most marked at the stand of James Lyne Hancock, Ltd., who celebrated their centenary in 1920, and claim to be the founders of the rubber industry. The company have on show specimens of old rubber boots, shoes and toys made by the natives of South America out of Para rubber and which represent the form in which the raw rubber first reached Europe. In contrast to this are to be seen some of the latest adaptations and colourings of this product. J. G. Ingram & Sons, Ltd., are displaying teats and valves, and the Ioco Rubber & Waterproofing Co., Ltd., are exhibiting, among a variety of other lines, lemon-coloured rubber sponges, hot-water bottles guaranteed for two years, and a sponge net which would appear to command a ready sale. The Mitcham Rubber Co., Ltd., a branch of the Leyland and Birmingham Rubber Co., Ltd., have an interesting display of surgical requisites, including enemas, whirling sprays, gloves and sheeting. In the scientific-instrument section A. C. Cossor & Son have a comprehensive exhibit of thermometers, hydrometers and kindred apparatus; L. Oertling, Ltd., show a good range of balances, including those for chemical purposes; Ross, Ltd., present a fine array of British-made photographic lenses, cameras, binoculars and telescopes; and Gustave Taylor attracts attention with a case of artificial eyes.

### Glass and Cutlery

In the pottery and glass section chemists will find much to interest them, particularly at the stands of Beatson, Clark & Co., Ltd., who have a comprehensive display of dispensing bottles and shop rounds; Chance Bros. & Co., Ltd., where various types of prisms and refractors used in the construction of light-house apparatus, including a lens 130 mm. in diameter, are to be seen. There are also specimens of Crookes and other optical glass and laboratory glassware. The advantages of artificial daylight—obtained by use of the Lamplough Daylamp—for colour-matching and room-lighting by prisms are demonstrated. The lamps are made by a company of that name, but the glass is made by Messrs. Chance. An excellent display of ampoules in neutral and soda glass, screw-cap tubes in white and amber glass, also for corks and slip-on caps, test-tubes and syringes are shown at the stand of Johnsen & Jorgensen Flint Glass, Ltd., and at the display of United Glass Bottle Manufacturers, Ltd., special emphasis is laid on the accuracy of their dispensing bottles. The jewellery and cutlery section has two stands with a pharmaceutical connection—The Wilkinson Sword Co., Ltd., with a display including shaving brushes, razors and scissors; and Johnson, Matthey & Co., Ltd. The latter are showing, among other things, fine samples of crystalline bismuth metal, silver nitrate, and many salts of rare metals. The treatment of sweeps for assaying is well illustrated. The combustible matter is first removed from the sweep, which is then ground and mixed to obtain a representative sample. The exhibit shows the various stages in these processes and the by-products formed in the smelting.

### Some of the Kiosks

In addition to the displays in the Palace of Industry, several of the exhibitors in other buildings are associated with the drug trade. There are also, outside this building, in Kingsway West, the kiosks of Autostrop Safety Razor Co., Ltd.; J. C. Eno, Ltd., alluringly decorated with bunches of artificial grapes; Sparklets, Ltd., where the advantages of making soda-water at home are extolled; and in Kingsway East, that of Cadbury Bros., Ltd., situated in charming surroundings not far from the British Government Building, are housed a good range of cameras made by Houghtons, Ltd., and at a model farm on Pacific Slope, W. Cooper & Nephews, Ltd., lucidly demonstrate the uses of the preparations they manufacture—sheep being dipped and weed-killer being sprinkled on the paths. Visitors interested in time-recorders and cash-tills should not miss the exhibit of G. H. Gledhill & Sons, Ltd., in the Palace of Engineering (U. & D., June 21, p. 864).

### Pears' Palace of Beauty

Pears' Palace of Beauty, situated in the Amusements Park, is proving one of the great "draws" of the Exhibition. The idea of portraying famous beauties of the past who were able to change the whole destinies of nations, has been cleverly conceived and ably presented. The *dramatis personæ* range from Helen of Troy to Miss 1924, and to meet the demands of a continuous exhibition two representatives of each character had to be found. There is no suggestion of direct advertisement in the scenes. But few visitors are likely to leave this artistic pavilion (which, by the way, they pay 1s. to enter) without being influenced, consciously or not, by the subtle association of "Pears" and beauty. A handsome gilt brazier of the famous soap, illuminated to display the well-known transparency, forms a striking feature in the centre of the hall. The various products of A. & F. Pears, Ltd., are on sale within the pavilion.

## Recent Patents

**Abstracts of specifications of recently-granted patents for inventions.** The complete specification (1s. each including postage) of British patents can be obtained from the Patent Office, 25 Southampton Buildings, London, W.C.2, on quoting the name of the patentee and the number of the patent.

**Antiseptic Tooth Paste.**—A dentifrice embodying in its composition cholesterin, 8 to 12 per cent., and iodine,  $\frac{1}{2}$  to 2 per cent. (Shepherd Chemical Co. 218,222.)

**Calcium Inosite-Phosphates.**—Soluble acid calcium, or calcium-magnesium, salts of inosite-phosphoric acid, can be obtained by the interaction between an insoluble magnesium salt of the acid and a calcium salt. (Society of Chemical Industry in Basle. 218,014.)

**Sulphur Dioxide Cartridge.**—A cartridge which on ignition develops sulphur dioxide for disinfecting purposes, or for the destruction of vermin, containing a charge consisting of saltpetre 49, sulphur 35, iron oxide 2, resin and sawdust 14 per cent. (C. M. Boving. 217,768.)

**Barium Peroxide.**—A process, and an apparatus, for the manufacture of barium peroxide, consisting in blowing air, or oxygen, into molten barium hydroxide at a temperature of 400°-600° C., and separating the peroxide formed by means of a cullender. (R. Stewart and B. Laporte, Ltd. 217,988.)

**Synthetic Resin.**—A process for preparing a synthetic resin soluble in alcohol, consisting in condensing a mixture of phenol, formaldehyde, glucose and hydrochloric acid at 65°-70° C. The heavy oil which precipitates, after washing and drying at 55° C., constitutes the product. (A. Bau. 218,054.)

**Alkyl Halides.**—Ethyl chloride and other higher alkyl chlorides, or corresponding bromides, can be prepared by passing a mixture of gaseous ethylene, propylene or higher olefine and hydrochloric or hydrobromic acid over bismuth chloride, or bromide, at a temperature of 100° to 200° C. (J. P. Wibaut. 203,722.)



## Births

Notices for insertion in this column must be properly authenticated.

MACMASTER.—At 1 Claremont Terrace, Glasgow, on July 26, the wife of Thomas Macmaster, chemist and druggist, Partick, of a son.

## Marriages

HUDSON—DEAN.—At St. John's Church, Wakefield, on July 19, George, younger son of Mr. F. Hudson, chemist and druggist, to Hilda Dean.

MCBAIN—JACK.—At U.F. Church, Rothes, on July 16, by the Rev. J. H. J. Bisset, B.D., William J. McBain, Inspector of Forests (Department of Forestry and Agriculture, Sudan Government), son of the late Mr. McBain, Balmacan, and of Mrs. McBain, Ferguslie, Forres, to Nancy Jack, M.B., Ch.B., eldest daughter of Mr. James Jack, chemist, Rothes.

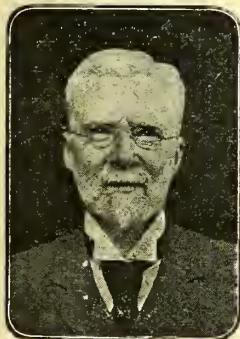
ROADLEY-SIMKIN—SCHOLEY.—At Burnham Westgate Church, on July 15, by the Rev. P. Bereton, M.A., Captain G. Roadley-Simkin, late East Surrey Regiment, to Olga, daughter of Mr. J. Scholey, chemist and druggist, Burnham Market.

SAWYER—HIGGINSON.—At St. Teresa's Roman Catholic Church, Southport, on July 19, Joseph Bernard Sawyer, chemist and druggist, Ainsdale, to Emily Higginson, 49 Eastbourne Road.

TURNBULL—WOODBURN.—At Christ Church, Morning-side, Edinburgh, on July 14, by the Rev. Eric Brereton, O.B.E., M.A., assisted by the Rev. W. T. Edwards, Northampton (brother-in-law of the bridegroom), Arnold Wakefield Turnbull, chemist and druggist, to Cissy, younger daughter of Mr. Matthew Woodburn, 25 Leamington Terrace, Edinburgh.

## Deaths

CRUSE.—At Southsea, on July 21, Mr. Thomas Harris Cruse, Ph.C., aged eighty-three.



MR. T. H. CRUSE, PH.C.

Mr. Cruse served a six years' apprenticeship to Mr. W. H. Tayler, Warminster, and gained further experience in Brighton, Portsmouth, and London. He was registered as a pharmaceutical chemist in 1866, and in the same year commenced business in Marmion Road, Southsea, subsequently removing to Palmerston Road, Portsmouth. The development of Southsea induced him, after a time, to open a branch in Clarendon Road East, and for a while he also carried on another pharmacy in Victoria Road South. In 1908 Mr. Cruse lost by death his elder son, who had been associated with him in business, and in the following year the concern was converted into a private limited company. The Portsmouth and District Pharmacists' Association was founded just prior to the latter of these events, and Mr. Cruse's long and honourable career received recognition by his election as the first President. The Palmerston Road pharmacy of Cruse & Co., Ltd., formed one of the illustrations in our issue of July 29, 1911 (p. 188). This business was disposed of some time ago to Boots, Ltd., and Mr. Cruse had since been living in retirement. During the European war his other son, a naval officer, was on board H.M.S. "Hampshire" when that ship went down. It was a pathetic coincidence that at the time of Mr. Cruse's death the housebreakers were dismantling his old premises in Palmerston Road.

BARTLETT.—At Albert Bridge Road, London, S.W., on July 17, Mr. George Frederick Handel Bartlett, chemist and druggist, aged seventy. Mr. Bartlett carried on business in Battersea, S.W., for a long period. In 1907 the error of an assistant, resulting in the death of a customer, led to the prosecution of Mr. Bartlett for manslaughter. Realising the importance of the case to the trade, THE CHEMIST AND DRUGGIST made the suggestion that the Pharmaceutical Society should be legally represented; and before the proceedings had gone far Sir William (then Mr.) Glyn-Jones was briefed by the Society, and sat beside Mr. Arthur Gill, the Treasury counsel. His expert knowledge of pharmacy law assisted in hastening the conclusion that there was no case against the defendant—a conclusion with which the judge forcibly expressed his agreement. During the European war, Mr. Bartlett, who suffered from long-standing deafness, disposed of his three businesses to Mr. E. Forbes, Mr. R. M. Edwards, and Mr. F. D. Finn, respectively, retiring at the close of 1918.

GROVE.—At Walsall, on July 19, Mr. Harry Nicholas Grove, chemist and druggist, aged sixty-nine.

GUY.—At Shifnal, recently, Mr. William Adolphus Guy, chemist and druggist, for many years in business in the Square, aged seventy-one. Mr. Guy was an original member of the Parish Council, and served on other local bodies. He is survived by a widow and a family.

WARNER.—At 12 Allen Road, Wolverhampton, on July 29, Annie, beloved wife of Mr. M. R. Warner, chemist and druggist, Chapel Ash.

## Personalities

MR. J. EASTLAND, chemist and druggist, Margate, has been appointed a justice of the peace for the borough.

MR. C. EDWARDS, Ph.C. (Timothy White Co., Ltd.), Portsmouth, obtained the B.Sc. degree with honours in chemistry at the recent examinations of the University of London.

MR. VICTOR COFMAN, B.Sc. (Lond.), chemist and druggist, sailed on the "Melita" from Southampton on July 24 to attend the meeting of the British Association for the Advancement of Science in Toronto.

MR. CHARLES A. BINGHAM, 20 York Road, St. Annese-on-Sea, elder son of Mr. A. C. Bingham, senior representative of Robinson & Sons, Ltd., Chesterfield, has obtained the degrees M.B., Ch.B., of Edinburgh University.

MR. S. C. LAWS, M.A., M.Sc., principal of the Wigan Mining and Technical College for the past nine years, has been appointed principal of the Northampton Polytechnic Institute, London, E.C., in succession to the late Dr. R. Mullineux Walmsley.

MR. GERALD A. FRANCE (managing director of Scott and Turner, Ltd., Newcastle-on-Tyne), as President of the local Advertising Club, entertained the American delegates to the Advertising Convention on the occasion of their visit to the city.

At the recent examination at Trinity College of Music, London, Miss Ena K. Browne, L.R.A.M., only daughter of Mr. W. Browne, chemist, Finchley Road, N.W., gained the diploma, L.Mus.T.C.L., and also the Trinity College Fellowship diploma (F.T.C.L.).

GREEK FOREIGN TRADE.—During the past year goods to the value of 6,035,345,777 paper drachma = 509,667,050 gold drachma, were imported into Greece, while exports figured with 2,545,110,111 paper drachma = 214,958,625 gold drachma. Compared with the preceding year, this adverse balance of trade, amounting to 294,708,425 gold drachma, shows an enormous increase, since the excess of imports over exports in 1922 amounted to about 94,000,000 gold drachma. Imports of chemical and pharmaceutical products represented in 1923 a value of 303,346,944 drachma (1922, 167,080,624), while exports figured with 33,440,617.



## Trade-marks Applied for

The figures in parentheses refer to the classes in which the marks are grouped. A list of classes and particulars as to registration are given in "The Chemist and Druggist Diary," 1924, p. 289.

(From "The Trade-marks Journal," June 25, 1924.)

Device of camels and asses led by natives through gateway with foreign characters meaning "House of the Fishermen"; for perfumery, etc. (48). By Ryff & Co., Société Anonyme, Sandrainstrasse 3, Berne, Switzerland. 443,494. (Associated.)

(From "The Trade-Marks Journal," July 2, 1924.)

"FRAYMITE"; for calcium oxalate and oxalic acid (1). By the Bhopal Produce Trust, Ltd., Chandbur, Bhopal, India. 447,210.

"SPRINK"; for a disinfectant for sanitary ware (2). By Drug and Chemical Corporation, Ltd., 41 Lower Kennington Lane, London, S.E.11. 446,887.

"NICOLENE"; for embrocation (3). By N. Halliday, 3 Main Street, Wykeham, Yorkshire. 447,415.

"CHIL-CHAP," etc., on label; for an ointment for chilblains and chapped hands (3). By R. J. Dodd, 105 Headstone Road, Harrow, Middlesex. 443,250.

"ASTRINGOL," on label device; for a mouth and teeth preparation (3). By the Dental Therapeutic Co., 9 Clinton place, Seaford, Sussex. 444,729.

"DEGA BRAND," with device including eagle; for medicinal chemicals (3). By Chas. Zimmermann & Co. (Chemicals), Ltd., 9-10 St. Mary-at-Hill, London, E.C.3. 447,922. (Associated.)

"CORBETT'S CORN CURE," on label device, including foot and facsimile signature "J. Corbett" ("Corbett's" and foot device disclaimed); for corn plasters (3). By J. Corbett, 10 Lower Cork Street, Mitchelstown, co. Cork, Ireland. 447,681.

"RHINO SEC"; for a medicated powder for inhalation (3). By E. Bourc, 31 Rue d'Amsterdam, Paris. 448,082.

"KOLYPTUS"; for medicinal chemicals (3). By N. Siddall, 13 St. Petersgate, Stockport. 448,726.

"SECOXYL"; for sea-sickness remedies (3). By F. B. Sharp, 24 Bloor Street East, Toronto, Canada. 448,788.

"STULA"; for mineral waters, etc. (44). By J. H. Aplin, 1 Silver Street, Trowbridge. 448,345.

"DESTKARDO"; for a hair preparation, foot cream and lotion, and bath salts (48). By E. R. Gray, 62 Albert Street, Stevenage, Herts. 445,672.

"GLANDOL"; for hair preparations (48). By F. S. Luggar, 53 Fleet Street, London, E.C.4. 445,802. (Associated.)

"NEVILLE'S"; for eau de Cologne cream (48). By R. M. and O. Neville, 25 Hamilton Road, Ealing, London, W.5. B446,159.

"TEK'I"; for a hair restorer and dressing (48). By S. H. Grundy, 10 Ethel Terrace, Bradford. 447,543.

"PYOTERSINE"; for perfumery, etc. (48). By E. Vaucher, 15 Grand-Chêne, Lausanne, Switzerland. 448,268.

(From "The Trade-marks Journal," July 9, 1924.)

"POND'S"; for a veterinary remedy (2), a medicinal preparation, ointment and cold cream, (3) and for toilet articles (48). By Pond's Extract Co., 71 Southampton Row, London, W.C.1. 443,615; 442,711/712. (Associated.)

"VERNET"; for nit destroying preparations (3). By P. W. Harcastle, 145 Bury Old Road, Bolton. 445,792.

"HYGIENIC SKIN CREAM," on label device with signature, "A. Edward Blacker"; for medicated skin cream (3) and for skin cream (48). By A. E. Blacker, 91 London Road, Chelmsford. 445,865; 447,883. (Associated.)

"NUVITOX"; for a liniment (3). By F. Hilton, W. Hilton, H. B. Kauntze and C. Kauntze, 56 George Street, Manchester. 448,061.

"FEZEZE"; for medicinal chemicals (3). By W. R. Fee, 28 Duncairn Gardens, Belfast. 448,434.

Circular device, with word "Reliability" on block, supported by three pedestals, lettered "Uniformity," "Purity," and "Efficacy"; for medicinal chemicals (3). By E. R. Squibb & Sons, 80 Beekman Street, Manhattan, New York, U.S.A. 448,679.

"POMEROY," on floral device; for toilet articles (48). By Mrs. Pomeroy, Ltd., 29 Old Bond Street, London, W. B 438,166.

Medallion device of birds and name of applicants; for perfumery, etc. (48). By Parfumerie Roger & Gallet, 38 Rue d'Hauteville, Paris. 447,555.

"OXIDUS"; for hair preparations (48). By L. T. Flittner, 2 Nowington Green, Mildmay Park, London, N.1. 448,266.

"SIR GALLAHAD"; for perfumery, etc. (48). By Société Parfennne D'Essences Rares et de Parfums, 20 rue Jean-Goujon, Paris. 448,674.

## Trade Notes

TEN YEARS AGO.—A striking announcement by one of the most patriotic chemical manufacturers is given in this issue.

KALKA SOAP.—Repeat business results from the sale of Kalka soap is the statement made by R. F. White & Co., Ltd., 34 Victoria Street, London, S.W.1.

VALDA PASTILLES.—Wilcox, Jozeau & Co., 15 Great St. Andrew Street, London, W.C.2, announce that the retail price of Valda Pastilles has been reduced to 1s. 3d.

NESTLÉ'S VI-LACTOGEN.—Butler & Crispe, 80-82 Clerkenwell Road, London, E.C.1, in an advertisement address chemists in regard to stocking Nestlé's Vi-Lactogen.

RONOLEKE HOT-WATER BOTTLES.—The seasonal demand for Ronoleke hot-water bottles will begin with the autumn. The makers' advertisement gives the reasons for stocking these goods and the wholesale and retail prices.

ANNUAL HOLIDAY.—Arthur H. Cox & Co., Ltd., manufacturing chemists, Brighton, inform us that their premises will be closed for the annual holiday from Saturday, August 2, until Tuesday, August 12. Arrangements have been made to attend to urgent correspondence.

POISON BOTTLE SAFEGUARDS.—John Leckie & Co., Ltd., Goodall Street, Walsall, give in their advertisement an illustration of the "Safeguard" fitting for bottles containing poisons. It is easy to distinguish medicines intended for external use and to prevent poisoning mistakes if the bottles are provided with this fitting.

"PINA" MANUAL.—A. Connell & Co., Melba House, Wenlock Road, City Road, London, N.1, send us a copy of the "Pina" manual issued by the Farbwerke vormals Meister, Lucius & Brüning, which deals in English with the use of dyes in photography as colour sensitizers and screens. It is sold at 1s. 6d., post free. A separate price list is also sent.

## Information Department

### INFORMATION WANTED

Postal or telephone information with respect to makers or first-hand suppliers of the undermentioned articles will be appreciated:

C/307. Cremaxiline Cream (for eczema)	L/257. "Orient" suspensory bandages
H/307. Ellis Wills' eye shades	S/307. Solvina Cream
B/257. "Liverpool Lint" bandages (present supply)	B/257. "Unite" razor blades
B/257. Radio socks	K/267. Willow Leaf mark for rheumatic plasters

### INFORMATION SUPPLIED

Inquiries regarding the following articles have been answered. The information as to supply will be given to others who send a stamped, addressed envelope to the Information Department, THE CHEMIST AND DRUGGIST, 42 Cannon Street, London, E.C.4.

Alvatunder. S/77	Melanyl marking ink. G/157
Bentley's weed killer. W/57	Moore's Tonin (d. emperor cure). R/147
Caranome vanishing cream. B/147	Neo-Trepol. P/47
China nanning. B/77	Nicotine, crude. K/306
Cyrano. P/77	Old Drury Wet White. S/157
Berris root powder. D/57	Ossiphone appliance. D/97
Dichlorbenzene. C/27	Parcaine. C/47
Dog soap tablets. H/77	Pellanthum. E/27
Dr. Morse's Indian Root Pills. G/157	Permutit. W/47
"Eson" Nerve Food. H/77	Provac. B/97
Fancy novelties. H/97	Rhodine. N/77
Farmer's slide rule. Z/77	Rodovus. A/77
Fellow's bronchial leaflets. S/57	Sanders' eucalyptus extract. G/77
Feltoe & Smith's Lime Juice Cordial. H/306	Sorbefacin. S/206
Filmaron. T/47	Stationery. H/97
Geraudel's pastilles. D/47	Vaco Reducing Cup. B/147
Hosezone sanitary towels. A/97	Veramon. W/47
Humagsolan. A/147	Violet ray apparatus. A/87
Ichthosan. Z/186	Vocalzone pastilles. D/47
Kalzana calcium sodium lactate tablets. H/77	"Wanda" nail polish. F/77
London purple. L/47	White birch tar bath powder. A/97
Madre ointments. A/87	Wire matting. S/97
Martin's Apol and Steel Pills. F/97	Wood's Peppermint Cure. F/47
	Wulfin's preparations. G/157
	Yomf cleaning cream. B/57



## Observations and Reflections

By Xrayer II.

### Two Things,

says a friend who has sent me an account of his impression of the Conference, stand out above all else. The first is the "very fine speech of the President" at the banquet. In Mr. Sargeant my friend claims to have discovered an orator unique in his experience in pharmacy. The speakers who followed him were but partially audible, and surprise is expressed that such clever men should essay to speak in public without having studied the art of making themselves heard. This is a fault that has long ceased to surprise me. Having no claim to oratory myself, it may be presumptuous to instruct others, but, as Mr. Shaw says, "the man who can, does; the man who cannot, teaches"; and I venture to say that nine out of every ten amateur speakers speak too fast. Intent on what they have to say, they forget that sound travels comparatively slowly; they run their words together so that the ear, at a little distance, cannot separate them. Time is, I am convinced, almost as important a factor in effective speaking as pitch. To "speak up" is the first essential, but it is not the only one; indeed, unless every word, every syllable, is distinctly enunciated it is of little use. My friend calls some of the speakers at the Conference "mumblers"; I suspect that "gabblers" would be equally appropriate. Only a practised orator can be heard distinctly when speaking rapidly in a large room.

### The Other Thing

that my friend mentions is the fine show the young ex-Service men made in the discussion of the question of pharmacy in the Army. I am told to be of good cheer: "Don't be afraid (I read); we have some good stuff coming on, and I am sure you would have been proud to hear these young men." In truth, I have never doubted of the "good stuff"; it is the persistence of so much of the old stuff, by which I mean that exemplified not in such men as Schacht and Giles (so admirably praised by the President), but in those who represent the purely commercial element brought in when "company pharmacy" first fluttered our dovecoats that disquiets me. I am aware that this may seem inconsistent with what I have said elsewhere, but it is not really so. The older men, the giants of my youth, had the art of combining the two elements which make up that curious compound, British pharmacy. They kept a just balance (to change the metaphor a little) between the two. Latterly we have run into "the falsehood of extremes" in both directions, or have weakly oscillated between the two. Even in Bath, I see, pharmacists run "drug stores." Come on, ye young men, and show your elders a better way, not by vaunting your professionalism, but by doing the work that falls to you in a professional spirit! I should add that my correspondent speaks with enthusiasm of Bath and the arrangements made for the entertainment of visitors to the Conference.

### Mr. White's Address,

though in places a little cryptic in style, and throughout adapted rather for careful subsequent study than for immediate apprehension, was intended to be of a thoroughly practical character. It dealt with two distinct though allied subjects—the future function of pharmacy as represented by the Society, and the future of the Conference under its new constitution as an agent of the Society. Mr. White is a very able man, and may fitly be regarded as the representative of statesmanship (using that word in its largest sense) in the Pharmaceutical Council. He takes long views, and is always reaching a hand through time to catch occasion by the forelock. It follows that for most of us he is not always easy to understand, and seems sometimes to be more than a little "in the air." It is not quite clear, for instance, what it is he would have the Society do in view of the development of pharmacy which he

foresees, and which, indeed, is already taking place; and still less clear is it what means we have for making the new departure for which he would have us prepare. We must be ready "to attempt to control and regulate the conditions brought about by antecedent developments," and yet we must be "content to deal with affairs as they already exist." These are brave words, but it is rather difficult to translate them into action. Absorbed in his vision of the future, Mr. White seems to forget what existing conditions are. It is certain that if we are in any real sense to "prepare" ourselves for the work Mr. White, though somewhat vaguely, sketches out for us, we cannot be content with the existing state of affairs—in fact, its continuance would be impossible. As affairs are, we are for the most part tradesmen; about that, at all events, there must be "no delusions."

### The Difficulty of the Situation

consists mainly in the fact that its solution does not rest with us. However we may prepare ourselves for the new work of pharmacy, there is no assurance that we shall be allowed even to "participate" in it. Mr. White hopes that we shall receive encouragement "from the medical side." It is a pious hope, but there is little apparent ground for it. We can, he admits, only make the essay on principles of friendly co-operation, "mutually acceptable and advantageous to both professions." Meanwhile we are kept by one of these professions out of our just right to dispense, and are allowed no real voice in the preparation of the national Pharmacopœia, which surely belongs to the work Mr. White would have us prepare for. I suggest that before committing ourselves to any new rôle we should secure an alteration in these respects. Perhaps this is what Mr. White means by saying that we must "be content to deal with affairs as they already exist." If so I heartily agree with him. Let us make sure of the ground as we go, not build bridges with no assured basis for them on the further side—a difficult job. We have been walking by faith long enough to desire some tangible ground for it. Granted that, we may reasonably consider the situation from Mr. White's point of view. Till then it seems to me premature to do so. We may, however, be thankful to have these hints at what may lie before us. Art is long, but time is fleeting, and the necessity for a change in our curriculum (for that is what is meant) may come sooner than we anticipate.

### Mr. Rowsell's Paper

and the subsequent discussion on the control of pharmaceutical specialities did little more than demonstrate the extreme difficulty of the subject and express the mind of the trade with regard to it. Naturally there was a very great difference of opinion, but all the speakers agreed that the trade in patents has many abuses, and there was a pretty general assent that they ought to be stopped. (The "sleeping dog," by the way, is not the patent medicine, but the law affecting it.) The question is how the law can be amended without injustice to honest dealers. I am glad to see the opinion so confidently expressed by several speakers that the publication of the formula would not inflict serious injury upon the proprietor, and sorry that Sir William Glynn-Jones is opposed to that step, though I was myself formerly a sharer of his view. He agrees with Mr. Mallinson that in the interest of the public further control is advisable; nay, he goes further, and says it is futile to discuss the subject from any other point of view; and proverbially the good of the public is the supreme law. If so, further control is not only sure to come, but ought to be welcomed, and no other step so likely to check the worst abuses has ever been proposed. Existing abuses could to a very great extent be checked by the individual pharmacist, if he had the courage and public spirit to do it. Time was when he had, and would have been ashamed to say that he was powerless in the matter. Has he so far lost the respect of the public as to have no influence left?



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## Editorial Articles

### South African Dagga

IN the annual report of the Secretary for Public Health for South Africa some remarkable revelations about the traffic in dagga are made which attracted attention in the House of Assembly when the Medical, Dental and Pharmacy Bill was again taken up on the report of the Select Committee. It will be remembered this Bill contains a special chapter dealing with the importation, sale and use of all drugs which fall within the category of dangerous habit-forming preparations. It appears (says the "Cape Times") that the estimates formed of the extent of the dagga evil two years ago, when the matter came prominently before the public, were far from being exaggerated, although the police authorities then doubted whether the dagga-smoking habit was as extensive as was asserted. The facts have since been investigated, and they show that, not for the first time in history, public opinion was a little better informed than official opinion. Pressure of parliamentary business held up the Medical, Dental and Pharmacy Bill a year ago, but the Government then took the opportunity of dealing with the dagga evil temporarily by issuing a comprehensive series of regulations under the Customs and Excise Amendment Act of 1922 (*C. & D.*, January 13, 1923), applicable not only to opium, but also to morphine, diamorphine, cocaine, heroin, and Indian hemp or dagga. And it has been the enforcement of these regulations which has thrown such a flood of light on the real facts. During the year ended June 30, 1923, no fewer than 2,256 prosecutions were brought throughout the Union for illegal use or sale of one or other of these "dopes," chiefly dagga, and 2,065 convictions obtained. Incidentally, astonishing stocks of dagga were discovered—stocks so large that they exploded the old fiction that they were held for medicinal or "veterinary" purposes. Shortly after the regulations were issued, one Cape chemist applied for permission to dispose of 8,800 lb. of dagga. Another for similar permission in respect of 9,400 lb. A third reported holding dagga to the value of £1,000—and so on. A valuable piece of research work initiated by the Health Department has cleared the way for further repressive action. Hitherto the problem of dealing with the dagga traffic has been complicated by the generally held belief that the dagga plant grows wild over large tracts of South Africa, and that to prohibit its cultivation on farms would be equivalent to ordering the whole agricultural community to carry out an impossible work of extermination. But this belief has now passed away, as it is perfectly clear from a number of exhaustive experiments carried out by Dr. Marloth and Professor Gunn that the plants known as "wild dagga" or "Cape dagga" (*Leonotis leonurus* or *Leonotis ovatus*) belong to a different botanical family (*C. & D.*, January 13, 1923, p. 56), and that they have none of the special toxic or narcotic properties of *Cannabis sativa*, or Indian hemp, which is the source of the true dagga. Consequently these indigenous plants have been removed from the schedule of habit-forming drugs, and the coast is clear for a ruthless campaign to eradicate the real evil.



Indian hemp (says the report) does not grow wild in South Africa to any considerable extent; it is sometimes so found about the sites of the old native kraals and gardens, but the narcotic properties of "dagga" prepared from such plants are comparatively low. Genuine and potent dagga can only be prepared from Indian hemp plants grown under cultivation in a rich and manured soil in a warm locality. It is easily grown from bird-seed, which contains from 5 to 30 per cent. of hempseed, added mainly as a cheap diluent.

For the above reason it has not been permissible for some time past to import, store, or sell any bird seed containing hemp seed, which is not at all pleasing to bird fanciers in the Union, who maintain that tropical birds cannot thrive in colder climates unless they have a certain amount of it.

### Mercury Market Uncertainty

WHILE there is still a little uncertainty as to whether the mercury market is capable of experiencing another spell of stringency, surface appearances lately have tended to easier conditions, due to the absence of trade demand. Consumers are endeavouring to hold back orders as long as possible, but at the same time there is always a possibility of urgent inquiries coming on the market. Moreover, the fact must not be overlooked that Italian and Spanish producers are still well sold ahead, and are thus in a strong position, holding out, so far as can be gathered, for net c.i.f. terms at considerably above London spot parity. Another contingency to be kept in view is the extent to which America may have to resort to fresh importations from the Continent. There was recently an inquiry reported from that quarter for about 2,000 bottles, but if orders were actually placed in that direction, this had no effect on the London market, where purchases could doubtless have been made more cheaply than by direct shipment from Continental mines. America is still largely dependent on imports to the extent of nearly double her own production, even allowing for a further increase in the already enlarged returns recorded for the past year. According to a recent statement by the U.S. Department of the Interior, prepared by the Geological Survey, the United States production during last year showed an excess of nearly 25 per cent., compared with the returns for the previous year, the total having been returned at 7,937 flasks, of which 69 per cent. was produced in California. Contributions outside California came chiefly from the Texas mines. Without the renewed output of the New Idria mines, last year's American production would have been less than for 1922, when it amounted to 6,375 flasks. Operations at other American mines have presumably been stimulated by the higher price ruling in recent months, while it has been reported that preparations have been going on for some time past in Texas for the reopening of certain mines there and in regard to several undeveloped claims recently purchased. It was stated that the Chiso mine, which was formerly one of the most productive mines in that region, producing in all about 200,000 bottles of mercury, still has an ore body which is far from being exhausted. In the past year the United States imported on balance about 17,700 bottles, chiefly from Continental Europe, but under an improving domestic production her importations this year should be to some extent lessened. A close survey of the London spot position leads us to the conclusion that very ample stocks are now available for disposal, while it is suggested by people in close touch with the market that these stocks may amount to 5,000 to 6,000 bottles, the existence of which cannot be left out of consideration under the lifeless demand which has been experienced for over a month past.

There has been admittedly no pressure to sell so far, in view of the comparatively high cost of import, but there is no doubt that the great scarcity which dominated our market over the early spring period has been at least remedied. Of this fact buyers are probably aware, and also that the time is now approaching when working operations at the famous Almaden mines should be resumed on a good scale. The high price ruling, moreover, should tend to accelerate the steps taken in that direction as much as possible. Re-exports from this side this year so far have been comparatively small compared with the previous year, but this is partly explained by the fact that foreign consumers have been filling their needs to a larger extent than in the past by direct purchases from the Continent. The returns of U.K. imports, which we give below, are interesting as indicating the substantial increase which has taken place in the receipts during the second quarter of the year:—

	1922	1923	1924
U.K. imports, January-March (bottles) ...	4,055	10,871	3,084
U.K. imports, January-June ...	6,122	23,884	17,399

It will be seen that during the second quarter of this year there has been a very large increase in the receipts, the total amounting to 14,315 bottles, against only 3,084 bottles for the first quarter, this making the aggregate for the first half-year, 17,399 bottles. A comparison with the previous year, in the matter of incoming supplies and also the range of prices, is likewise of interest, the figures being as follow:—

	U.K. imports bottles	London spot price	
		Highest	Lowest
		£ s. d.	£ s. d.
1923 ... ..	34,352	12 5	8 12 6
1924 (first half-year)	17,399	14 10	9 10 0

In view of the reduced demand in London, noted for some time past, these returns of imports, which are fairly well in line with the pre-war normal, would add colour to the belief that our market is well supplied. The tendency early this week was, however, rather firmer with quotations ranging from £13 to £13 5s., which is attributed to buying by large dealers, but subsequently an easier feeling prevailed on Wednesday. Evidently efforts are being made to hold the market, the state of which is somewhat puzzling.

### Gold from Mercury

THE alchemist's quest, the transmutation of base metals, termed by modern science the disintegration of atoms, would appear to have at last been accomplished. To the comparatively large number of atoms which are already known to disintegrate under bombardment by x-rays, upsetting all preconceived views of the immutability of the elements, must be added, if preliminary observations are confirmed by further experiments, mercury, which would undergo transmutation into gold. Professor Dr. A. Miethe, director of the photo-chemical laboratory in the Charlottenburg technical high school, reports that in the course of investigations into the discoloration of transparent minerals and colloids under the influence of ultra-violet rays, in which he used a Jaenicke mercury lamp, he observed the formation of a black deposit on the interior surface of the lamp. An analysis of the deposit demonstrated, *inter alia*, the presence of gold. In order to establish the chemical composition of this deposit, a special apparatus was designed, in collaboration with Dr. H. Stammreich, permitting the volatilisation of mercury between two mercury electrodes, using a current of 400 to 2,000 watts at 170 volts for a period of 20 to 200 hours. In the residues obtained in a series of experiments the presence of minute amounts of gold, between  $\frac{1}{10}$  and  $\frac{1}{100}$  milligram, could be demonstrated by the usual tests; indeed,



the precious metal appeared, after complete removal of the mercury, as an agglomeration of cubic and octahedral crystals. In this connection it is interesting to note that three Japanese investigators, Nagaoka, Sugiura, and Mishima, in recording the results of a study of the atomic structure of mercury and bismuth ("Nature," March 29), state that the K-radiation shows a small anomaly in passing from gold to mercury, and expressed the view that from the remarkable resemblance of non-series lines in gold and mercury it might be inferred that their nuclei had something in common. The dream of alchemists, they stated, could perhaps be realised by striking out a H-proton from the mercury nucleus by  $\alpha$ -rays or by some other powerful methods of disruption. Professor Miethe believes that he has succeeded in effecting this disintegration, although it was impossible to prove the liberation of helium or hydrogen atoms from mercury in the process of its transmutation. Mercury into gold—how many great minds have been held in thrall by this vision, in pursuit of which they contributed so much of tangible value to the advancement of chemistry?

### Government Trading Losses

THE accounts and balance sheets of trading and commercial services conducted by the Government during the year ended March 31, 1923, have been published as a blue book, together with the report of the comptroller and auditor-general thereon. The net loss on sugar supply operations shown in the cumulative account from August 14, 1914, to March 31, 1923, is £27,448,242, compared with £26,711,492 recorded in the account to March 31, 1922. This difference is stated to be due mainly to the fact that the charge for interest has been increased by an amount of £831,994, which represents interest on Exchequer advances for the period from April 1, 1921. The net loss outstanding is the result of selling sugar to the consumer during the three years to March 31, 1921, at prices below the economic value. Under the heading of "Reparation Dyes," it appears that the deliveries of dyestuffs from German manufacturers during the period December 1919 to March 31, 1923, were valued at £936,641, while sales amounted to £1,017,317. In addition, sales to the value of £71,640 were allocated and despatched to the Indian, Australian and New Zealand Governments. Commission and other disbursements amount to £178,437. The adjustment of agent's commission and expenses, for which a reserve was raised in the 1921-22 accounts, was completed during the year. Stocks in hand on March 31, 1923, were valued at £112,538. These are priced at average invoice cost as advised by the Reparation Commission or estimated realisable value, whichever is the less. Against the amount of £936,641 to be accounted for to the Reparation Commission, £751,277 has been remitted to the Treasury and £64,382 transferred to Indian Government Reparation Account. The balance in the hands of the Board was transferred early in 1923-24. The balance due to Central Importing Agency, £5,148 7s. 6d., has since been paid. The balance in agent's hands, £40,548 0s. 1d., was remitted by the agents in April 1923. Administrative expenses are borne by the agents, and are charged in the trading account under the head of commission. The loss for the year ended March 31, 1923, is due to the adjustment of agent's commission in respect of prior years.

### Business Changes

MR. F. W. ELLIOTT, chemist and druggist, has opened a business at 52 Euston Avenue, Watford West.

MR. W. S. STANNARD, chemist and druggist, has commenced business at 11 Hamilton Road, Colchester.

MR. J. J. SUTHERLAND, chemist and druggist, has opened a pharmacy in Balham High Road, London, S.W.17.

## Westminster Wisdom

By the "C. & D." Parliamentary Representative.

### SALE OF PYRIDINISED SPIRIT

Mr. Lorimer asked the Secretary of State for the Home Department if he can give the number of people convicted of methylated spirit-drinking since the addition of pyridine was made compulsory; and if he can give comparative figures of convictions before the new order was brought into force.

Mr. Rhys Davies replied: No, sir. It will not be possible to make any such comparison before the complete figures of convictions for drunkenness for the year 1924 are collected at the end of the year.

### PATENT MEDICINES

Sir K. Wood asked the Minister of Health, on July 28, whether his attention has been called to the dangers arising from the unrestricted sales of certain patent medicines; that their manufacturers are not compelled to disclose the composition of the product bearing their labels or prevented from advertising it as a cure for a particular ailment; and whether he proposes to take any action in the matter to further protect the public?

Mr. Greenwood, who replied, said attention has been called to this matter; but in the present state of business the Government cannot undertake to introduce legislation on this subject during the present session.

### SHOP HOURS

Mr. Lumley asked the Home Secretary, on July 29, if the existing order which provides for a compulsory eight o'clock closing on weekdays and nine o'clock on Saturdays ceases at the end of the present year; and, if so, what steps the Government are taking in order to preserve the existing conditions?

Mr. Henderson replied that the answer to the first part of the question is in the affirmative. It is proposed by a provision in the Expiring Laws Continuance Bill which was recently introduced to continue for another year the Act of 1920 which embodies the Order, as has been done during each of the last three years; and so for the time being to keep in force the existing arrangements.

## Gazette

### Bankruptcy Acts

#### RECEIVING ORDER AND ADJUDICATION

POULOT, A. I., 20 Bucklersbury, London, E.C.2, "chemist."

WEST, H. D., 6 Laurel Crescent, Keighley, Yorkshire, and 40 Low Street, Keighley, chemist and druggist.

**Portsmouth.**—At the recent annual meeting of the Portsmouth Pharmacists' Association, Mr. Sparrow, who is shortly leaving the town, was presented with a gold cigarette-case, suitably inscribed, on behalf of the members. The President (Mr. W. R. Atterbury) remarked that Mr. Sparrow was ready to do a good turn at every opportunity. His activities would be missed in many charitable and social organisations, and in the name of the Association the President wished Mr. Sparrow health and happiness in his new undertaking. Mr. Sparrow, having replied, the annual reports of the secretary and treasurer were adopted, and £5 5s. was voted to the Pharmaceutical Society's Benevolent and Orphan Funds. Officers for the ensuing year were re-elected as follows:—*President*, Mr. W. R. Atterbury; *Vice-President*, Mr. W. H. Bown; *Treasurer*, Mr. W. L. Egerton; *Secretary*, Mr. F. H. Ruoff; *Council*, Messrs. Darling, Fry, Hart, Hemming, Hill, Murray, Parsons, and Thorpe; *Auditors*, Messrs. Postlethwaite and Rhodes. [Corrected report.]



## BRITISH PHARMACEUTICAL CONFERENCE



## Bath 1924

## REPORT OF THE PROCEEDINGS



OUR report of the proceedings of the British Pharmaceutical Conference in last week's issue comprised the two sessions of the branch delegates and so much of the transactions in the science section as considerations of space permitted. We now give the rest of the science papers, with discussions, and a report of the events of July 24 and 25.

## Science Section—July 22

The papers referred to in last week's report were:—

**The Identification and Classification by Chemical Methods of Drugs containing Tannin: I.—Application of the "Goldbeater's Skin Test"**

By C. J. JORDAN and A. H. WARE, PH.C.

## [ABSTRACT]

At one time, if a drug principle gave a green, blue, or black colour-reaction with ferric salts, it was usually assumed to be a tannin. This has led to much unfortunate confusion, some of which still persists. We find, for example, standard works, such as Perkin and Everest's "Natural Organic Colouring Matters," still including such bodies as caffeeo-tannic acid (so-called), and ipecacuanhic acid among the tannins, notwithstanding the fact that they do not tan hide or skin, and differ from tannins in certain other important respects to be discussed later. The "goldbeater's skin test for tannins," devised by Atkinson and Hazleton, and improved by Miss Price and others, working under Dr. Nierenstein's direction, now affords a more valuable method than any qualitative test hitherto devised of determining with a fair degree of certainty whether or no a body is a real tanning material. For details of the test it will suffice here to say that the process depends essentially upon the following features: (1) A piece of suitably prepared goldbeater's skin is tanned by immersion in a vegetable extractive containing tannin. (2) Such a "tanned skin" will acquire a blackish or sometimes dark brown colour on immersion in 1 per cent. solution of ferrous sulphate. In the case of crude drugs, for purposes of comparison, the extractive is best prepared in each case by the following uniform method: The substance, suitably comminuted, is digested with water in the proportion of 1 gram to 50 c.c. on a boiling water-bath for half an hour. The authors of the test also state that it can be made use of for detecting phlobaphenes; for, if the stained skin be allowed to soak in 5 per cent. hydrochloric acid for two minutes, the coloration due to tannin is destroyed, but that due to the phlobaphene, if present, is much more permanent. It was found by the present investigators that the persistence of a stain, after treatment with 5 per cent. hydrochloric acid, could not be used as a distinction between phlobotannin and gallotannin drugs, because the latter also very frequently leave a similar stain. Even in the case of phlobotannin drugs, it would be a great mistake to assume that such a stain as that under discussion is due entirely to phlobaphene, since anthoxanthins and other chromogenic phenols often accompany phlobotannins, and many such bodies will give a stain to the "skin." The stain given by many gallotannin drugs is usually almost entirely due to such bodies. With respect to the demonstration of the "staining"

(the writers of this paper use the term "stain" to indicate a colour effect shown by the skin in the absence of iron) properties of various substances, the present investigators do not consider it necessary to carry a skin through to the 5 per cent. hydrochloric-acid stage in order to get these effects, for they find that if a drug-extractive stains the skin at all the stain can be obtained before immersion in the iron solution, and the colour is practically identical with that obtained by carrying the process on through the ferrous sulphate and 5 per cent. hydrochloric acid treatment stages. By comparing in the case of each drug tested, a "blank" skin (prepared with 2 per cent. HCl washed and dried), with a "stained" skin (if there be any stain), and with an iron-treated skin, it is usually possible readily to distinguish between the following classes of vegetable substances: (a) Those which do not stain and do not tan, e.g., nux vomica, Ignatius bean, serpentary rhizome (Texan), and gallic acid. (b) Those which stain without tanning, e.g., senna and digitalis leaves, broom tops, aloin and aloes, chrysarobin. (c) Those which tan without staining, e.g., galls, and, of course, gallotannic acid. (d) Those which stain and also tan. This class includes probably the majority of vegetable substances containing any appreciable amount of tannin, for, although the pure tannins themselves have no tinctorial powers, they are usually accompanied in plants by other bodies which have such properties, to a greater or less degree. Such dyeing properties, especially upon skin, are usually very feeble, so that any considerable darkening of colour after iron treatment nearly always indicates tannin; this being much more effectually fixed by the "skin" than any dye known to occur in plants. Since the present paper is more particularly concerned with drugs containing tannin, the authors have listed their results under the following three headings, viz.: (1) Drugs giving positive results characteristic of tannin (see Table 1). (2) Drugs giving poor or dubious results (see Table 2). (3) Drugs giving results unmistakably indicating the absence of tannin (see Table 3).

TABLE 1

Acacia barks	Kino (Eucalyptus, so-called)
Alkanet root (? tannin)	Krameria barks
Butea "gum"	Larch bark
Catechu, pale (gambier)	Logwood (? tannin)
Catechu, black (cutch)	Myrabolans
Cloves	Oak barks
Cinnamon barks	<i>Prunus serotina</i> bark
Galls and gallotannin	Rhubarb rhizome
Cinchona barks	<i>Rosa Gallica</i> petals
Cocoa seeds	"Tea" leaves
Guarana	<i>Uva ursi</i> leaves
Hamamelis bark and leaves	Willow barks
Kino (Malabar)	

It may be noted that all the official drugs which are stated in the B.P.C. to contain tannin, with one exception, viz., Texan serpentary root, give a definite response to the test. The colour reaction is very marked in all the cases recorded in Table 1, but one official drug, namely, pyrethrum, gives a poor and somewhat dubious reaction, and is therefore included in Table 2. Many of these drugs give a well-marked stain to the "skin" before immersion in the iron solution, and it may be interesting to consider a few of these cases.

Krameria root gives a stain which is unmistakably



due to phlobaphene, for the drug contains no other colouring matter. In this respect the drug may be contrasted with rhubarb, which gives a very marked stain to the "skin." Now, it will be found that chrysarobin gives an almost precisely similar stain. It is therefore fairly evident that the staining effect of rhubarb is due more particularly to a water-soluble hydroxy-anthraquinone or anthranol bodies rather than to the small quantity of phlobaphene present. The gambier stain is interesting. It will be noticed that this is scarcely, if at all, *blackened* by the iron, although it is *deepened* in colour. This appears to be due to the fact that the staining powers of both catechutannic acid and catechu red are greater than their tanning properties (catechu-tannic acid differs from ordinary tannins in being a coloured anhydride of catechin. It resembles a phlobaphene rather than an ordinary tannin). Gallo-tannin drugs all appear to give a good blue-black iron-coloration to the "skin" test. As before stated, many of them stain the skin well, before the iron stage. This is notably the case with cloves, hamamelis, and *Rosa Gallica* petals, all of which contain large quantities of anthoxanthins, probably flavonols. That staining may be due to anthoxanthins has been proved by testing quercetin and rutin and also by taking a number of drugs known to contain flavones, flavonols, etc., and no tannin. The stains on the skins due to these bodies are slightly darkened by the iron immersion, but the effect is as a rule very poor and dubious as compared with that of a typical tannin drug. The stains due to hydroxy-methyl-anthraquinone bodies, such as aloin, aloes, chrysarobin and senna leaves, are hardly affected by the iron. On the contrary, the stains due to logwood and alkanet root are markedly blackened by the iron immersion. It is somewhat doubtful whether these results are due to tannin. No tannin appears to have been recorded for alkanet, and the writers cannot obtain decisive indications of its presence by any other test. With respect to logwood, the case is different. Tannin has been stated to be present, and hæmatoxylin, notwithstanding the fact that a very dilute solution readily yields a deep-black precipitate with iron salts, gives an almost negative result to the test. Until hæmatein, however, has been tested there can be no certainty that the logwood result is due to tannin. So far, however, the only marked blackening effects given to the test have been yielded by drugs containing tannin or reputed to contain tannin, except in this one instance of alkanet root, unless one also includes santonica, which gives the best result of these drugs which are listed in Table 2 (poor and dubious reactions).

TABLE 2

Arnica flowers	Cotton root bark
Cascara bark	Digitalis leaves
Chiretta	Hops
Cimicifuga rhizome	Pyrethrum root
Coca leaves	Santonica
Coffee beans	<i>Viburnum prunifolium</i> bark

Arnica, coca leaves, and *Santonica capitula* give indications to certain other tests that they contain little (if any) tannin and a considerable amount of an anthoxanthin, probably a catechol-flavonol, to which the poor positive result given by the test is at least largely due. The even poorer result with digitalis is probably mainly, if not entirely, due to the luteolin, and those with chiretta and hops are probably, at least in part, also due to anthoxanthins or similar bodies. The belief that hops contain a true tannin seems to be mainly based upon the fact that the supposed tannin yields a phlobaphene, but it is now known that phlobaphene-like bodies are yielded by a certain number of bodies which will not tan skin. In this connection a dubious result obtained with reputed *Uncaria Gambier* leaves and twigs is interesting, since the writers are also unable to get any very definite evidence of tannin in these leaves and twigs by the application of other tests, but the leaves appear to contain a phlobaphene-like body. The rather poor positive result with coffee is probably due to the presence in coffee of a phlobotannin and phlobaphene.

It is not due to the so-called caffeeo-tannic acid, because neither nux vomica nor Ignatius beans, each of which contain plenty of this body, yield the slightest stain or iron reaction to the goldbeater's skin test. Power and Browning state that cotton root bark contains no tannin, but the goldbeater's skin reaction is almost identical in appearance to that given by cimicifuga and hops. In the case of cascara the positive result is so little, and so closely resembles the stain caused by aloin, that it cannot be safely taken to be indicative in any sense of tannin. In viburnum and cimicifuga also other tests give little or no indication of tannin. Stiasny's test makes it pretty certain that the iron-greening result with ferric alum solution given by these drugs is not due to tannin.

TABLE 3

Results which are negative for tannin. Slight stains are given in many cases, but they are not appreciably *darkened* by the ferrous sulphate. Thirty-four drugs out of a total of about seventy-five tested yielded negative results. In most of these tannin had never been recorded as present, and so the negative result obtained was expected. Many of the results, however, are interesting, because they afford a satisfactory and severe check upon the value of the test. A selection of such results is herewith appended:—

*Phenols and phenol-carboxylic acids*.—Carbolic acid, resorcin, salicylic acid, and gallic acid.

*Oxy-methyl-anthraquinone drugs*.—Aloin, chrysarobin, aloes, and senna.

*Caffeo-tannic (so-called) acid drugs*.—Ignatius and nux vomica seeds.

*Ipecacuanhic acid drug*.—Ipecacuanha root.

*Phloroglucinol glucosides*.—Orange and lemon peels.

*Flavone and Flavonol drugs, and drugs giving similar reactions*.—Belladonna, buchu, digitalis, hyoscyamus, jaborandi and stramonium leaves, broom tops, lemon peel, lobelia herb, picrorhiza, and podophyllin.

*Drugs tried partly because they have been said by some authorities to contain tannin*.—Broom tops, digitalis, ipecacuanha, Ignatius bean, nux vomica, serpentary, and valerian.

*Berberine and allied drugs*.—Berberis and calumba. It will be observed that most of these selected drugs are particularly characterised by phenolic bodies related to tannins so that the negative results are of special value in helping to establish the validity of the test as applied to the detection of tannins.

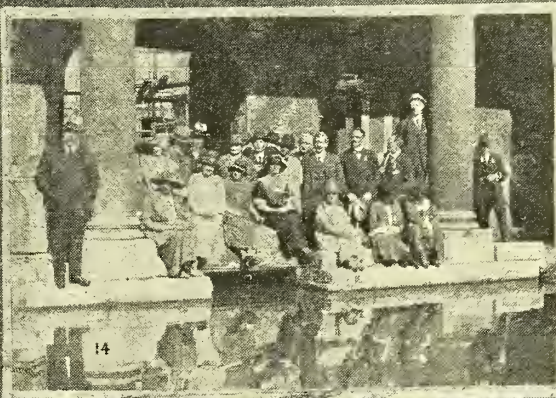
The absolutely negative results given by nux vomica and Ignatius beans are particularly noteworthy, and show that chlorogenic acid (the so-called caffeeotannic acid) is neither a tannin nor a colouring matter. Ipecacuanha resembles nux vomica and Ignatius with respect both to its iron-greening character and negative reactions to the "skin" test. These results are confirmed as to their implications by those obtained with the improved Stiasny's test. The two tests taken together definitely establish that neither of these drugs contain anything in the nature of a tannin, and do not yield a phlobaphene. Digitalis is included in both Tables 2 and 3 because some samples appear to give little or no "staining" effect, while others appear even to give a slight "tanning" effect. Merck apparently reported tannin in this drug. Serpentary rhizome is stated both by Greenish and the B.P. Codex to contain tannin, but every sample tested by the authors (only Texan was available) gave a decidedly negative result.

#### CONCLUSIONS

The authors claim to have well established the validity of the goldbeater's skin test from the standpoint of pharmacognosy. It may not be infallible as a test for tannins, but it appears to be the best single general test for the presence of tannins in drugs which has been devised up to the present. In addition, the staining effects of some drugs, while unfortunately rendering some of the positive results rather dubious with respect to their being indicative of the presence of tannins, are, on the other hand, valuable



# Some Conference Pictures



*The Photos on this page are by  
Mr. John Cleworth, Manchester*



indications of the presence of certain natural vegetable dyes, generally belonging to the anthraquinone or anthoxanthin classes when not phlobaphenes. Such stains are most frequently given by extractives of flowers, fruits, and leaves; and seldom by roots, barks, and woods, unless accompanying tannins. The present investigators find, however, that notwithstanding this dyeing power (usually feeble) of certain plant principles, other than phlobaphenes, the presence of tannins is not only clearly indicated by the test in the case of all drugs known to contain tannin, but in most cases the "tanning" effect can be readily distinguished from any "dyeing" effect. Experiments with chrysarobin, aloin, quercetin, and rutin, and a large number of drugs containing hydroxyanthraquinone, anthoxanthins, and other natural vegetable dyes, but from which tannin is known to be absent, indicate that the enhanced effect due to iron upon the stains given by these colouring matters is usually small; whereas the colour reaction between genuine "tanned skin" and the iron is most marked. The experimental work embodied in this paper was carried out in the laboratories of Evans, Gadd & Co., Ltd., Exeter.

### The Identification by Chemical Methods of Drugs containing Tannins

By ALAN H. WARE, PH.C.

[ABSTRACT]

#### STIASNY'S TEST FOR PHLOBOTANNINS

IN 1905 Stiasny discovered that all catechol-tannins and phlobaphenes are completely precipitated from solution by boiling for a short time with a little formaldehyde and dilute hydrochloric acid, whilst gallotannins are incompletely precipitated. The author finds that the test is an extremely valuable one from the qualitative point of view, and has examined by this method a very large number of drugs, and finds that, of all the widely distributed chromogenic phenols which are water-soluble, only phlobotannins and phlobaphenes are completely precipitated. The precipitate given by tannins is readily distinguished from most others, which are likely to be given by the same test, by its relative insolubility both in alcohol and solutions of alkalis. Further, with respect to the filtrate, any iron-colouring phenols, which it contains, may readily be detected by adding a little ferrous sulphate solution and neutralising with alkali. The test is very simply worked. A few c.c. of extractive are placed in a test-tube with a few drops of 40 per cent. formaldehyde solution, and the same number of drops of 10 per cent. dilute hydrochloric acid, and boiled for about one minute. The presence of excess of formaldehyde and acid should then be ensured, and the mixture again boiled, if necessary. The mixture is then cooled and filtered. Either a strong, watery extractive may be used, or a water-diluted alcohol extractive from which most of the alcohol has been boiled off. The latter should not be filtered.

*Examination of the Precipitate.*—The precipitate should be treated successively, on the paper, with water, 90 per cent. alcohol, and aqueous alkali. A copious coloured residue after this treatment is an almost certain indication of a phlobotannin body. Unless the boiling is much prolonged, gallotannin drugs give, as a rule, little or no residue.

*Examination of the Filtrate or Solution.*—Dilute, if necessary, and add one or two drops of solution of ferrous sulphate (conveniently kept as 10 per cent. ferrous sulphate, and 33 per cent. cane sugar). Then add, drop by drop, a 5 per cent. solution of aqueous potash, until either a characteristically coloured solution or a precipitate is produced. Unless the content of chromogenic phenol is very small or none, there will be no precipitation of ferrous-ferric hydrate. The writer finds that, under the conditions of the test, ferric salts often give a green and not a blue coloration, if gallic acid or gallotannin be present; but that if ferrous sulphate be used it can always be relied upon to discriminate between iron-blueing and iron-greening substances.

*Iron-greening filtrates* are yielded by many anthoxanthin bodies, e.g., by arnica flowers, santonica, gambier,

coca, stramonium, and digitalis leaves; and also by substances containing glucosides of the chlorogenic acid group (catechol-glucosides, e.g., nux vomica, ipecacuanha, cimicifuga, hops, and viburnum. On the contrary, such drugs as krameria roots, guarana, and the kinos, which contain no iron-greening bodies, but the phlobotannins and phlobaphenes, give filtrates yielding no characteristic iron-coloration.

*Iron-browning filtrates* may be given by certain substances containing anthraquinone derivatives; for example, rhubarb, and by some anthoxanthin bodies, as well as by several bodies of less widely distributed classes.

*Iron-blueing filtrates* may be given by substances containing gallic acid, gallotannins, and certain anthocyanins.

The writer has applied this test to all the drugs named in the paper on the "Application of the Goldbeater's Skin Test," and all those listed in Table I of that paper give markedly positive results for tannins to the test described in the foregoing. That is, all the phlobotannin bodies yield a characteristic precipitate, and all the gallotannin drugs give an iron-blueing filtrate. The drugs listed in Table II of the previous paper do not give any reaction for tannin to the extended Stiasny's test, but in most cases the filtrate yielded after boiling with the reagents, gives indications of phenols other than tannin. The goldbeater's skin test has the following advantages over the test under discussion, namely, that it distinguishes between gallic acid and gallotannin, and also between iron-greening anthoxanthins which stain skin, and such iron-greening bodies as chlorogenic acid and ipecacuanhic acid which do not stain skin.

#### IODINE AND AMMONIA TESTS

If a suitably prepared extractive of a drug containing tannin be boiled with a slight excess of tincture of iodine (a few drops of a double strength methylated spirit tincture can be used for economy), the following results may be obtained:—

(1) Typical phlobotannin drugs yield a copious coloured precipitate. If the mixture contains little or no alcohol, the iodine added in slight excess, and the mixture well cooled after boiling, phlobotannins and phlobaphenes are completely precipitated.

(2) The filtrate, in the absence of other phenolic substances, becomes practically colourless on adding solution of ammonia. (N.B.—If too much excess of iodine has been employed, iodide of nitrogen may be precipitated.) In the presence of phenolic bodies other than phlobotannins and phlobaphenes, the addition of ammonia often leaves a colour. If these bodies be gallic acid, gallotannin, or hydroxyanthraquinone compounds, the colour, on addition of ammonia, may become intense. Other phenolic substances, as a rule, give comparatively little colour, or, in some cases, none.

(3) Important classificatory results are obtained if the iodine precipitates given by phlobotannin drugs are subjected to the action of aqueous ammonia. These results fall into three distinct classes, viz.: (a) The iodine precipitate is soluble in the aqueous ammonia, yielding an intensely coloured liquid. (b) The precipitate is insoluble in aqueous ammonia, but becomes usually more strongly coloured. (c) The precipitate consists of very appreciable quantities of two bodies, one of which dissolves to give a good colour, and the other remains insoluble, but is also well coloured. Typical gallotannin drugs in watery extractive, or in water-diluted alcoholic extractive (which has been freed from alcohol and filtered if necessary), give little or no precipitate. The solution or filtrate (yielded after adding iodine, boiling and cooling) becomes immediately intensely coloured on adding solution of ammonia. The colour is often more intense than that given by the same volume of extractive, which has not been treated with iodine if ammonia is added. If the effect of boiling the two solutions referred to be compared, it will be found that the one without iodine will lose its colour (temporarily) to a far greater extent than the one to which iodine has been added. In conclusion, the author finds that the results given by the "Goldbeater's Skin Test," the "Extended Stiasny's Test,"





# Some Conference Pictures

*Photos by John Cleworth*





and the "Iodine and Ammonia Tests" with respect to substances containing tannins are substantially in agreement. With respect to doubtful cases, any one of these tests is a very useful check upon the others. The iodine and ammonia tests are, of course, the least specific of the three sets under discussion for tannins as a group, but, in the author's hands, have proved of more value than any other tests in the subdivision of the group, and are of great value also in the recognition of individual drugs.

#### CLASSIFICATION OF VEGETABLE SUBSTANCES CONTAINING TANNIN

**Group A.**—Bodies in which tannin characters predominate and can be easily recognised. They can be classified as follows:—

**Class I.**—Typical phlobotannin substances, containing no gallic acid or gallotannin in any appreciable quantity. This class may be subdivided by considering the character of the precipitate given on boiling with a few drops of tincture of iodine, thus:—

**Division 1.**—The precipitate yielded on boiling with iodine resembles an ordinary phlobaphene in being soluble in aqueous alkali to give an intensely coloured solution. Bodies belonging to this division fall naturally into two categories which are readily distinguishable by the extended Stiasny's test, viz.:—

(a) Those which contain iron-colouring bodies (anthoxanthins, etc.) which are not precipitated by Stiasny's reagent—e.g., gambier and elm bark.

(b) Those which contain no appreciable quantity of such bodies—e.g., krameria root.

**Division 2.**—The precipitate given on boiling with iodine solution is insoluble in aqueous alkali, or, if any portion is soluble, it does not give a solution possessing any marked colour. Drugs, etc., in this division fall into similar categories to those of Division 1.

(a) Those which contain iron-colouring bodies (anthoxanthins, etc.) not precipitable by Stiasny's reagent—e.g., *Prunus serotina* and larch barks.

(b) Those which contain no appreciable quantity of such bodies—e.g., "kinos."

**Division 3.**—The precipitate given on boiling with iodine solution appears to contain two substances, one soluble and the other insoluble in aqueous alkali—e.g., Oliver's bark and cacao seeds.

**Class II.**—Phlobotannin bodies containing gallic acid or gallotannin or both. This class may be subdivided as follows:—

**Division 1.**—Substances yielding a phlobaphene which gives a green colour-reaction with iron—e.g., oak barks.

**Division 2.**—Substances yielding a phlobaphene which gives a purple, violet, or blue colour-reaction with iron—e.g., *Acacia Arabica* and *A. decurrens* barks.

**Class III.**—Typical gallotannin bodies containing no phlobotannin in any appreciable quantity. These fall into the two natural categories before mentioned, viz.:—

(a) Substances containing anthoxanthins, or anthocyanins, or allied bodies—e.g., cloves and red rose petals.

(b) Those which contain no such bodies, but may contain ellagic acid in appreciable quantity—e.g., myrabolans and hamamelis bark.

**Group B** comprises substances containing small quantities of tannin, or which are reputed so to do, but which are especially characterised by reactions due to bodies other than tannins. Such substances are best identified by reference to tables which are not based primarily upon the reactions of tannins, but upon the reactions of other classes to which the predominant substances referred to belong.

#### DISCUSSION

Mr. LESCHER raised the question of a change in commercial kino. The kino one used to get was almost translucent; the kino of the present day appeared to be black and almost without tannin.

In reply, Mr. WARE agreed that there was enormous variation in kino—he had handled many samples from Bristol University. Kino ought to be better defined in the British Pharmacopœia.

Dr. HOOPER gave the confirmatory experience that samples he examined used to be pure, whereas present-day samples were impure.

The last paper of the day was:—

#### The Rhizomes of *Helleborus Niger* and *H. Viridis*: A Comparative Study\*

By T. E. WALLIS, B.Sc., F.I.C., Ph.C., and ALISON M. SAUNDERS, Ph.C.

#### [ABSTRACT]

A short time ago the authors had occasion to examine transverse sections of a large number of roots taken from a commercial sample of black hellebore, which consists of the rhizome with its attached roots of *Helleborus niger*, Linn. The sections showed a great variety of structure, both as regards the number of primary xylem bundles present and in the general arrangement of the woody tissues as a whole. So great was the variation that, judging from statements made in the literature, they were led to doubt the uniformity of the sample and to suspect the presence of rhizomes of other species of *Helleborus*—especially of *H. viridis*—in admixture with that of *H. niger*. In order to clear up the uncertainty, authenticated specimens of fresh rhizomes of *H. niger* and of *H. viridis* were obtained from the Royal Botanic Gardens, Kew, from the Chelsea Physic Garden, and from commercial sources. It was found that preparations made from these authentic specimens did not always agree with the characters usually ascribed to those of *Helleborus*, and given in text-books and works of reference as features by which the two rhizomes may be distinguished from one another. The authors undertook a careful investigation of the structure of the rhizomes and roots of these two species of *Helleborus* in order to test the accuracy of the current methods of differentiation. After summarising work by Neuber, Tschirch, and others, they give tables of measurements of rhizomes of *H. niger* and *H. viridis*, showing that the diameter of the pith forms a fractional portion of the whole diameter of the rhizome varying from 0.21 to 0.45 millimetres, with an average of 0.30, while for *H. viridis* the corresponding figures are 0.17 to 0.46, with an average of 0.32. The two sets of measurements are therefore so closely similar that one cannot hope to distinguish the two rhizomes by the relative proportion of pith present. Similarly the fractional part of the whole diameter representing the width of the bark varies in *Helleborus niger* from 0.18 to 0.33, with an average of 0.27, and in *H. viridis* from 0.19 to 0.31, with an average of 0.25, so that there is no possibility of basing a distinction upon the relative size of the bark. The distinguishing characters based upon the number and shape of the xylem bundles are also quite unreliable. The coloration of the roots is not a safe character, for reddish-tinted roots are present upon rhizomes of both *H. niger* and *H. viridis*, and the same remark applies to roots of a grey-brown to black-brown colour. With respect to the relative hairiness, the authors have been unable to detect the presence of a larger number of root-hairs upon the roots of the one plant than upon those of the other. Hairiness appears rather to depend upon environmental conditions than upon specific variations. In any case, the character would be of very little value when examining ordinary commercial samples of the dry drug, since the hairs are then very brittle and easily rubbed off and the roots themselves are frequently broken off short. The shape of the roots in the dry drug is also inconclusive for determining the species. It is evident that the arrangement of the xylem groups in the woody cylinder of the roots cannot be relied upon as a character for distinguishing between these two drugs. The number of primary xylem bundles is also a quite valueless criterion. This number varies even in the same root. Tetrarchy occurs, but it no more frequent than, for example, pentarchy or hexarchy. The authors' sections also explain the statement of Neuber

\* Contribution from the Research Laboratory of the Pharmaceutical Society.



about *H. niger* that the bundles "almost always form a closed star with blunt rays. In many roots the outline of the star is frequently formed of only two or three rows of cells, while in the centre there lies a large pith." This appearance of a comparatively narrow ring of xylem is due to the presence of a large pith and of a certain degree of secondary growth. Precisely the same appearance of a ring of wood or star-shaped outline of a few rows of cells in width, with blunt rays and accompanied by a large central pith, is to be found in roots of *H. viridis* when cut in a position corresponding with that part of the roots of *H. niger* which shows this formation. This particular part of the roots is that nearest to the rhizome from which they spring. As the secondary formation increases the woody cylinder assumes a new form in transverse section, resembling that shown by the corresponding structures in the roots of *Cimicifuga racemosa*, and, if the root is tetrarch, the appearance closely resembles a Maltese cross, the arms of which are the wide wedges of secondary wood; if more bundles are present a star-shaped figure, with blunt rays widening towards the outside, results, the blunt rays being the masses of secondary wood. This formation of secondary xylem between the primary xylem groups, resulting in an apparent loss of the original radial character, has been noted for certain other ranunculoid roots by Maxwell. This work has resulted chiefly in destructive criticism, indicating that the points of difference hitherto relied upon to distinguish between the rhizomes of *H. niger* and *H. viridis* are quite useless for the purpose. An attempt was therefore made to find some new features which might possibly serve as diagnostic characters. With this end in view the following structures in the two plants were carefully compared:—

- (1) The cells of the epiblemata of the roots.
- (2) The form and size of the starch grains.
- (3) The size of the wood vessels and the nature of the pittings upon the walls of the vessels.
- (4) The structure of the epidermises of the rhizomes.

The first observations of two typical rhizomes or roots gave hopeful indications in several instances, but examination of further specimens led in every case to the conclusion that no differentiating character could be found. The authors have therefore reluctantly come to the conclusion that it is not possible at present to find any character which can be used to enable one to distinguish with certainty between the rhizomes and roots of *Helleborus niger* and *H. viridis*. This conclusion agrees with the opinion of Flückiger and Hanbury expressed in the year 1879 that "there are no striking characters by which they (i.e., the rhizomes and roots of these two species of hellebore) can be discriminated." Hartwich also, writing in 1905, appears to be of the same opinion.

The authors desire to thank the authorities of the Royal Botanic Gardens, Kew, Mr. Haes, of the Chelsea Physic Garden, and the Pharmaceutical Society of Great Britain.

#### SUMMARY

(1) The currently accepted criteria, by which the rhizome and roots of *Helleborus niger* are considered to be distinguishable from those of *H. viridis*, are found upon examination to be unreliable for that purpose.

(2) A number of other characteristics of these two drugs have been investigated with a view of finding some features which are constant for all specimens of each species and which could be safely used as a certain means of differentiation. No such characters have been discovered. The opinion of Flückiger and Hanbury that there are no striking characters by which these two drugs can be discriminated has, therefore, been confirmed.

(3) So far as can be ascertained at present, the only certain method of distinguishing the one rhizome from the other is that advocated by Hartwich, who suggests the collection of the rhizomes with the radical leaves attached, these leaves being quite characteristic.

There was no discussion, but the CHAIRMAN, in thanking the authors, remarked that this was careful work, which would, no doubt, find its way into the text-books.

## Science Section—July 24

To avoid upsetting the arrangements of the Local Committee, the Science Section commenced its proceedings at 9 o'clock on Thursday morning, and within a short time of the opening there was a large attendance. Mr. Edmund White occupied the chair, and called upon Professor Greenish to deal with the first two papers:—

### Note on *Artemisia Gallica*, Willd.\*

By CYRIL W. MAPLETHORPE, A.I.C., PH.C.

#### [ABSTRACT]

THE high price that has been demanded for santonin for some years has resulted in the examination of other species of *Artemisia* with the object of ascertaining whether there are other available sources for this important vermifuge. It has already been shown that the leaves of *Artemisia brevifolia*, Wall., contain sufficient santonin to make the utilisation of the plant for this purpose an attractive proposition. In 1923, Viehover and Capen ("Jour. Am. Chem. Soc.," Aug. 1923) examined thirty-six American species of *Artemisia* by micro-chemical methods, and reported the presence of santonin only in three. They obtained a negative result with *Artemisia gallica*, Willd. In many cases, however, the open flower heads of old plants had to be examined, and the negative results, therefore, are not conclusive. In 1885, Heckel and Schlagdenhauffen ("Compt. Rend.," 100, 804) carried out an examination of *Artemisia gallica*, Willd., with the following results:—

- (1) *Artemisia gallica* contains, in all parts of the plant, about 1 per cent. of essential oil. A crystalline compound (a camphor?) also distils over with the oil.
- (2) Petroleum ether extracts from the flower heads about 3 per cent., which consists principally of wax and yellow colouring matter with a little chlorophyll.
- (3) Chloroform extracts santonin and at the same time a resinous substance, which appears to be an isomer of santonin.
- (4) Alcohol extracts from the entire plant glucose, tannin, colouring matter, and an alkaloid.

In the summer of 1923 Mr. W. J. Sheppard, Barnstaple, reported that *Artemisia maritima* and *A. gallica* grew in large quantities in the neighbourhood of Barnstaple. In view of the conflicting statements referred to, it was thought that the opportunity of examining these plants for santonin should not be neglected. Mr. Sheppard was good enough to supply sufficient of the plants for the purpose. Two batches of material were sent, and they were identified at the Natural History Museum at South Kensington as *A. maritima*, L., and *A. gallica*, Willd. The material was dried and the leaves and flowers (which were unopened) separated from the stems. The mixed leaves and flowers were powdered and examined.

*Artemisia maritima*.—Thirteen and a half lb. of fresh material yielded 3½ lb. of dry and 2 lb. of flowers and leaves. The ash and moisture in the powder were determined, and it was examined for santonin. The method adopted ("P.J.," II, 1923, 94) was the same as that used in the examination of *A. brevifolia*. No crystals separated, the liquid depositing only oily and resinous matter on standing; it was filtered and evaporated almost to dryness on a water-bath. The resinous residue obtained was then dried over sulphuric acid. A portion of this dry residue was heated in a vacuum sublimation apparatus. A slight sublimate formed, but it could not be identified as santonin.

*Artemisia gallica*.—Six lb. six oz. of fresh material yielded 2 lb. 5 oz. of dry and 1 lb. 7 oz. of leaves and flowers. The ash and moisture were determined on the powder, and it was examined for santonin. No crystals separated in this case, and therefore the same conclusion was arrived at. The crystallising liquid was treated in the same way as before. A sublimate was obtained, but no evidence of the presence of santonin could be adduced.

From the results obtained it would appear that there is

\* Communication from the Pharmacy Research Laboratory.



no appreciable amount of santonin present in either of the two species examined at that particular stage of their development.

### The Structure and Development of the Bark of *Erythrophloeum Guineense*, G. Don\*

By CYRIL W. MAPLETHORPE, A.I.C., Ph.C.

#### [ABSTRACT]

At the last meeting of the British Pharmaceutical Conference a report was made of the assay of the bark of *Erythrophloeum Guineense*, G. Don, that had been sent to the Pharmacy Research Laboratory from the Amami Research Institute, East Africa. As Mr. Alleyne Leechman had sent to the Research Laboratory, in addition to the bark worked upon last year, twigs of the tree in various stages of development preserved in alcohol, it was thought desirable to follow the development of the bark from its earlier stages to the thickest bark in the consignment.

The author quotes the descriptions of Planchon and Collin, "Les Drogues Simples," Vol. II, p. 483, 1896; Moeller, "Anatomie der Baumrinden," p. 400; Planchon, "Annales du Musée Colonial de Marseille," 2 ser., Vol. V, 1907. The following is his description of the specimens examined by him:—

*Specimen A.*—In a twig about 5 mm. in diameter the epidermis in transverse section consists of small cells nearly square or sometimes radially elongated. The cork is just beginning to form, and appears to arise in the layer of cells immediately below the epidermis. The cortex varies in thickness from twenty to thirty layers of cells. Near the cork, and separated from it by three or four layers of cells, is an interrupted line of sclerenchymatous cells, isolated or in small groups. The parenchymatous cells of the cortex contain numerous small starch grains. Within the cortical parenchyma is an irregular band of fibres and sclerenchymatous cells of pericyclic origin, on the outside of which are cells containing single crystals of calcium oxalate. The sclerenchymatous cells are in isolated groups, radially elongated. The phloem is about twelve to fifteen cells in thickness. It contains isolated bast fibres, numerous crystals of calcium oxalate, and tangentially elongated cells, arranged in three or four concentric circles containing dark-brown colouring-matter which gives a tannin reaction with ferric chloride. The xylem consists mainly of sclerenchymatous fibres with scattered vessels, usually isolated or in radially elongated groups of two to five; occasionally the vessel contains a dark-brown amorphous substance (tannin?). The medullary rays are one, or sometimes two, cells wide. The pith is large and remarkable for the extent and early development of masses of isodiametric cells with strongly thickened, lignified, striated walls, and numerous pores. Even in the youngest twig examined (3 mm. in diameter) the greater part of the pith consists of such cells; the pericyclic fibres are here arranged in a single layer and the secondary xylem is just beginning to form. The pith of a twig 5 mm. in diameter consists practically entirely of these sclerenchymatous cells.

*Specimen B.*—This specimen was about 2 to 3 mm. in thickness. The cork consists of about twenty layers of cells outside of which is a little dead, disorganised tissue. The cork is slightly lignified, and reacts for tannin with ferric chloride. The cortex varies in thickness from twenty to thirty layers of cells. Scattered in the cortex and generally nearer the cork are stone cells, mostly in groups of varying size but occasionally isolated; this sclerenchymatous tissue shows a considerable increase when compared with that in A. The individual cells vary in size from  $28\mu \times 32\mu$  to  $40\mu \times 52\mu$ . On the inner side of the cortical parenchyma is an irregular band of fibres and stone cells corresponding to the pericyclic layer. The sclerenchymatous tissue has here also very considerably increased in extent, and the band of pericyclic fibres has consequently been split up into comparatively small groups. The pericyclic fibres are about  $6\mu$  to  $10\mu$  in diameter, and the stone cells vary between  $40\mu \times 68\mu$  and  $32\mu \times 88\mu$ . Abutting on the pericyclic sclerenchyma, chiefly on its outer margin,

are cells containing single crystals of calcium oxalate. Starch is distributed in the cortical cells, those near the pericyclic sclerenchyma and the cork containing more than those in the middle. The secondary phloem is about fifty cells wide; it contains strands of collapsed sieve tissue, parenchyma and bast fibres, the last-named being chiefly in tangentially elongated groups, the fibres measuring about  $12\mu$  to  $16\mu$  in transverse section. In this tissue there are four or five parallel, tangentially arranged, interrupted layers of cells with brown contents, the layers being separated from one another by two to six rows of parenchymatous cells or bast fibres. These tannin cells measure about  $28\mu$  to  $40\mu$  in transverse section, and are oval or rounded in outline. A longitudinal section or isolation by digestion with 2.5 per cent. solution of potassium hydroxide shows them to be axially elongated and arranged in vertical rows. Similar cells were observed in the specimen A. The medullary rays are either one or two cells wide, but they widen rapidly as they approach the pericycle. The medullary ray cells and the tannin cells both contain starch grains. As the stem further increases in size the sclerenchymatous cells, both in the cortex and pericycle, show a corresponding increase, and the groups of pericyclic fibres are now separated from one another by long bands of sclerenchymatous tissue. Groups of sclerenchymatous cells, often of large size, also make their appearance in the secondary phloem, pushing the medullary rays aside as they develop. In still older bark these groups of sclerenchymatous cells have considerably increased in number, though not appreciably in size, with the result that in such barks the sclerenchymatous tissue constitutes a considerable proportion (about one-seventh) of the transverse section of the bark.

Planchon and Collin do not allude to groups of fibres in the sclerenchymatous line, but as these are often at considerable distances from one another it is quite possible that their section did not include them. Moeller says the cortex is split off in curved scales by the formation of the cork layer. In the barks I examined I have not observed this. He says that the cork consisted of eight to fifteen rows of cells. In the thickest specimen I examined the cork was 8 mm. thick, whilst in the younger specimens it often exceeded thirty layers of cells. Moeller alluded further to the small amount of soft bast present in the secondary bast of young barks (in my specimens fairly abundantly represented), and stated that the medullary rays are from four to six cells wide, whereas, in agreement with Planchon and Collin and Louis Planchon, I find the medullary rays to be one or two cells wide. As no reference is made to a sclerenchymatous pericyclic ring, it must be assumed that this had been thrown off by the development of cork layers in the secondary bast, although in a specimen of about the same thickness I observed a conspicuous sclerenchymatous line. The difference between this bark and those examined by myself and Louis Planchon is so considerable that doubt must be felt as to whether this is really the bark of *E. Guineense*. Louis Planchon examined the barks of *E. Couminaa*, H. Bw. of *E. Guineense*, G. Don, and of *E. Fordii*, Oliv. His description of the bark of *E. Guineense* agrees fairly well with the bark under examination, with the exception that I have not observed groups of sclerenchymatous cells in the cork, although in the thickest bark examined (2 cm.) the sclerenchymatous line was not apparent, it having probably been thrown off. Of the three barks examined by Louis Planchon, that of *E. Guineense* alone agrees with my specimens. None of these three authors refers to the arrangement of the tannin cells in concentric circles, which forms a conspicuous feature of all the barks I examined. The most characteristic anatomical features in the bark of *Erythrophloeum Guineense* are, therefore, the unusual number and size of the groups of sclerenchymatous cells, the tannin cells, and the ring of pericyclic sclerenchymatous cells associated with occasional groups of sclerenchymatous fibres.

My best thanks are due to Professor Greenish and Mr. T. E. Wallis for assistance in carrying out this work.

There was no discussion.

\* Contribution from the Pharmacy Research Laboratory of the Pharmaceutical Society.



The next paper was :—

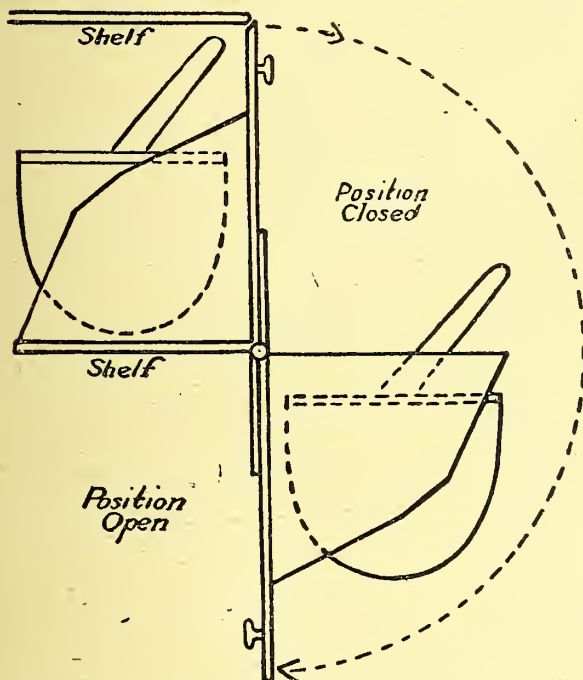
### An Improved Pot for Stock Ointments

By R. FOURACRE, Ph.C.

[ABSTRACT]

It appears that pots for containing ointments have been always of practically the same shape, although the pattern may have varied from narrow base to canopy top. When an ointment is in frequent but intermittent use, much time is wasted. The jar has to be removed from the shelf, the lid taken off, a spatula fetched, and after the required amount is extracted the process is reversed. It was with the idea of finding a more convenient and expeditious method for the storage of ointment that the new design has been evolved.

The container consists of a vessel of stone or metal, having a cylindrical bottom and sides square at the top, two of the sides being fitted with sockets. A door hinged at the bottom is attached to a shelf and has



supports fastened at the two edges on the inner side. These two supports have pins or trunnions on which the container rests by means of the sockets. When not in use the bottom of the container rests on the shelf, but when the contents are required the door is opened, bringing the jar with it, swinging in a vertical position, so that the ointment is ready for extraction, there being sufficient room for a spatula to be kept constantly in the container. The shelf above acts as a lid. The swinging arrangement will be inferred from the diagram. Advantage is being taken of the rebuilding of Westminster Hospital to have the scheme adopted in the new dispensary. The design is provisionally protected.

#### DISCUSSION

Dr BRYANT (Aberdeen) made inquiries regarding the cost.

Mr. GERRARD (Birmingham) expressed his appreciation of the paper.

Mr. FORSTER (Seaham Harbour) thought the pot was an excellent invention.

Mr. SHEPHERD (Barnstaple) agreed that it excluded dust, but not air. He also expressed a doubt as to whether it would function when only a small amount of ointment was present.

Mr. FOURACRE, replying, said the pots for experimental use cost about 10s. each, but purchased in quantity this

figure would be reduced; the framework costs very little. There would be no mechanical difficulty, even if the quantity of ointment was small.

The next paper, which was read by Mr. J. Grier, M.Sc., Ph.C., was :—

### The Assay of Valerian Root and of certain other Aromatic Drugs

By KENNETH BULLOCK, B.Sc. (HONS.).

[ABSTRACT]

THE author first outlined the objections of assay by steam distillation, enumerating some of the changes most easily brought about in valerian oil which should be avoided. Any assay process must avoid strong heating, especially in the presence of air and moisture. It was thought advisable, therefore, to endeavour to extract the oil by means of volatile solvents. The first experimenter's were to find whether the volatile oil can be completely extracted from the root by volatile solvents. Experience has shown that petroleum spirit with a boiling point below 45° C. possesses distinct advantages over others in that while all the oil is extracted the temperature is kept down and the quantity of extractive matter obtained is a minimum. All the extractions were carried out in a large Soxhlet apparatus. On completion of the process the extract was dried by standing over fused sodium sulphate. To obtain the oil the bulk of the solvent was removed by simple distillation on the water-bath. The concentrated residue was then poured into a glass evaporating dish with vertical sides and the remaining solvent removed in a fairly rapid current of dry air. The air was dried by bubbling through concentrated sulphuric acid and passing over fused calcium chloride. The necessary suction was obtained by employing a filter pump. Towards the end of the process the dish is weighed at regular intervals of about five minutes until the decrease in weight is constant over two such successive intervals. Knowing this constant loss and the length of time during which the evaporation has been proceeding, one can calculate the original quantity of oil extracted; 0.003 gm. in five minutes was the average loss.

A quantity of dry Belgian valerian root in No. 40 powder extracted with petroleum spirit by the above method yielded 1.68 per cent. of a greenish-brown thick, fatty oil. On treating this residue with 70 per cent. alcohol the fatty matter remained behind, while the oleoresin went into solution. The alcoholic solution was filtered and the filtrate extracted with chloroform, an excess of water being added so to dilute the alcohol as to throw out the oleoresin, which consequently passes completely into the chloroform. The chloroformic solution was separated, and the oleoresin obtained, as described above. By this means 0.58 per cent. of oleoresin was separated. The extracted root was exposed to the air to allow any petroleum spirit to evaporate, moistened with a quantity of water equal to its own weight, and allowed to stand twenty-four hours. On subsequent extraction with petroleum spirit and treatment of the extract with 70 per cent. alcohol, as in the first part of the experiment, a further 0.41 per cent. of oleoresin was obtained. Thus in all 0.99 per cent. of oleoresin was extracted. The doubly-extracted root yielded no volatile oil when submitted to the process of steam distillation. From these results it was concluded that: (1) At least as much oil may be extracted from the root by petroleum spirit as can be obtained by steam distillation. (2) Moistening the drug with an equal quantity of water facilitates the extraction of the oil. (3) The water acts mechanically, probably simply by swelling the tissues, and not by promoting enzyme action, since the first extraction with petroleum spirit (and especially ether in the experiments where this solvent was used) would have killed any enzymes present, and consequently the subsequent maceration with water manifestly could not promote their action, although it did facilitate the extraction of the oil.

The author next tried moistening the drug with an equal quantity of water before extracting with the petroleum spirit, and this method yielded 1.307 per cent. of



oleoresin. The extracted root again yielded no oil on steam distillation. Thus the whole of the oil can be extracted by one exhaustion with petroleum spirit, provided that the drug is first moistened with its own weight of water. Experiments were now carried out to determine what are the conditions under which the highest yield of oil may be obtained, as a result of which the following is suggested as a general method of assay for valerian root:—

Take 50 gm. of the drug in No. 40 powder, and mix it well in a large mortar with 50 c.c. water and 80 gm. of dry sand. Pack at once into extraction thimbles of a suitable size and extract in a Soxhlet for four hours with petroleum spirit of boiling point below 40° C. Remove the solvent and dry it by standing over anhydrous sodium sulphate; filter and remove the bulk of the solvent in a distillation flask on the water-bath. Transfer the residue (which should be 3-4 c.c. in quantity) to a glass evaporating dish with upright sides, taking care to rinse out the distillation flask three times with about 2 c.c. of petroleum spirit. Remove the solvent in a rapid current of dry air in the manner described above. Let the weight of the residue be A gm. Dissolve this in 15-20 c.c. of 70 per cent. alcohol, and filter off the precipitated fat, allowing the filtrate to run into a separating funnel. Wash the dish and filter paper with three lots of 5 c.c. each of 70 per cent. alcohol. Add 20 c.c. of chloroform to the alcoholic solution and shake. Now add an excess of water containing dissolved sodium sulphate to prevent troublesome emulsification, and also to salt out the oil, and again shake. Separate the chloroform layer. Remove the last traces of oleoresin from the diluted alcohol by shaking out with a further two lots of 5 c.c. of chloroform. Unite the chloroform extracts and remove any traces of alcohol by washing with water. Dry the chloroform solution by standing over  $\text{Na}_2\text{SO}_4$ , and after filtering remove the bulk of solvent in a distillation flask on the water-bath, and the last traces in a current of dry air as previously described. Let the weight of the residue be B gm., then:—

2(A-B) = per cent. of fat extracted.

2B = per cent. of oleoresin in the drug.

#### SEPARATION OF VOLATILE OIL FROM RESIN

Valerian root contains not only volatile oil, but also resin, the two probably occurring together as an oleoresin. It is this oleoresin which is extracted in the process described above. Several attempts were now made to effect a separation of the oil from the resin. The best results have been obtained by dissolving the oleoresin in a little chloroform, adding an excess of glycerin, and distilling the mixture (from a Claisen flask to prevent bumping) in a vacuum on an oil-bath. The condenser should be immersed in a freezing mixture of ice and salt. Using about 1 gm. of oleoresin, it is sufficient to distil over 30-40 cc. of glycerin, the whole process occupying about half to three-quarters of an hour. The oil may be obtained from the distillate (which smells of acrolein due to decomposition of the glycerin), and the resin from the residue in the distillation flask, by diluting the glycerin in each case with water and extracting with chloroform. If it is desirable to obtain the resin as well as the oil, air should not be admitted into the apparatus until the distillation flask has cooled. The great disadvantage of this method of separation is the high temperature involved. As a result of this we may have (1) some esters of borneol splitting up, yielding camphene and the free acid; (2) some oil going to resin actually during the process of distillation. If the first change occurs, then the total acidity of the distilled oil and the residual resin should be greater than that of the original oleoresin. By experiment, this was proved to be the case. However, even if this reaction does take place, there is no addition or loss of water involved, and consequently no alteration in weight should occur, so that the change is quite immaterial from a purely assay point of view.

It was found that resinification only occurs to a comparatively slight extent during the process of distillation. About 22 per cent. of oil is invariably lost during redistillation. The author up to the present has been unable to trace this loss. It is considered due to failure to condense or extract some volatile constituent of the oleoresin. Assuming this to be the case, then one can obtain the relative proportions of resin and oil by distilling the oleoresin as above, weighing the separated resin, and

subtracting this from the weight of oleoresin employed to obtain the proportion of volatile oil. Although an ideal separation is not obtained by this process, yet the results are concordant and comparable, and yield valuable information concerning the age of the drug from which the oleoresin has been extracted. A high percentage of oil and a low percentage of resin indicate a fresh sample of drug. Examples were given showing how very necessary is some method of assaying valerian preparations.

#### APPLICATION TO OTHER DRUGS

It has been shown that the water with which valerian root is moistened previous to extraction does not act by promoting enzyme action, but rather in some way by altering the physical condition of the drug so as to promote its penetration by the petroleum spirit. It was thought probable that the function of the water is to cause the mucilage which has become hard and impervious during the process of drying to swell up and become softer, rendering the tissues more porous. The general assay process was therefore tried on other mucilage-containing drugs, powdered cassia and cinnamon yielding a higher percentage of oil when moistened with water. From experiments conducted on powdered ginger the author shows that (1) the amount of moisture in the drug previous to extraction has an enormous influence on the yield of oil obtained; (2) the yield of oil reaches a maximum in the case of ginger powder with about 15 c.c. of water, while the yield of fat (a by-product) makes a maximum at about 8 c.c., and then falls off very rapidly as the water increases.

As a result of further experiments, the author suggests the following process for the assay of tinctures of valerian.

Transfer 200 c.c. of the tincture to a large separating funnel. Add 50 c.c. of petroleum spirit and shake. Now add an excess of water (500 c.c. in the case of the B.P. tincture) containing sodium sulphate in solution (to avoid emulsification) and shake again. Separate the petroleum spirit layer. Make the alcoholic residues strongly acid with concentrated HCl and then extract with three lots of 50 c.c. each of petroleum spirit. Unite the petroleum spirit extracts, wash them with water, and dry by standing over anhydrous sodium sulphate. Finally, filter off the sodium sulphate, remove the bulk of the solvent on the water-bath, and the remainder in a rapid current of dry air as described in the general assay process. Let the weight of the residue be x gms. Then:—

$\frac{x}{2} = \text{per cent. } \left(\frac{W}{V}\right) \text{ of oleoresin in the tincture.}$

$\frac{5x}{2} = \text{per cent. of oleoresin calculated on the dry root from which the tincture was prepared.}$

It may be pointed out again that if alcohol of over 70 per cent. strength were used in making the tincture or extract, the residue obtained by the above process may contain fat as well as oleoresin. Any such fat can be removed with 70 per cent. alcohol.

#### SOME EXPERIMENTS WITH FRESH VALERIAN ROOTS

The author used roots collected by himself at the beginning of June this year (before flowering occurs). Seventy grammes of the fresh roots were mixed with 80 gm. of sand in a large mortar and then ground to a pulp. This was covered with a glass dish and left to ferment for three days, at the end of which time it was extracted. After the assay the marc was removed from the Soxhlet thimbles and exposed to the air for twenty-four hours to allow it partially to dry. It was then again submitted to the assay process without the addition of water. A second lot of 70 gm. of the fresh root was treated exactly as above, except that it was ground to a pulp in the presence of a strong ethereal solution of mercuric chloride (to "kill" any ferments or enzymes) and extracted at once instead of being left three days to ferment. From the results obtained it was concluded that: 1. Any enzyme action which occurs in the roots after their collection, far from increasing, is actually detrimental to the yield of oleoresin. 2. The fresh root contains too much water to be in a suitable condition for extraction with volatile solvents without partial drying. 3. That the quantity of water present in the drug at the time



of its extraction has a very great influence on the yield of oil.

As a result of another experiment in which the fresh root is dropped into boiling alcohol it was shown: 1. The fresh root may be completely exhausted by absolute alcohol without previous drying. 2. That the addition of concentrated hydrochloric acid to the alcoholic residues facilitates the removal of the oleoresin by the petroleum spirit layer even when no alkali such as ammonia is present. 3. The oil is not the result of enzyme action occurring during the crushing or drying of the fresh root, since dropping them into boiling alcohol would have killed any enzymes present. A further quantity of fresh root was sprinkled with a solution of mercuric chloride in ether and ground with sand. To the resulting mass such a quantity of alcohol was added that when the water present naturally in the fresh root had diffused evenly throughout the solution the result would be equivalent to soaking dried root in 70 per cent. alcohol. The quantities required to fulfil these conditions are quite suitable to work with; thus 224 gm. of root required 420 c.c. of alcohol. The extraction was carried out by maceration with frequent shaking in the cold for fifteen days, after which time the solution was filtered off and the marc pressed. The tincture prepared in this way was found to contain 0.227 per cent. of oleoresin—i.e., the alcohol had extracted from the root 2.9 per cent. of oleoresin calculated on the dry root. Since the general method of assay gave only 3.4 per cent., it will be seen that this method of extraction is quite satisfactory. It is suggested, therefore, that a tincture prepared in this way (omitting, of course, the addition of the mercuric chloride) would prove to be very effective, since the oil would be present in an almost unaltered condition, and it has long since been recognised that fresh valerian possesses considerably greater therapeutic activity than the dried drug. Ammonia (which, from the results quoted under the heading of tinctures, ought further to assist the extraction of the oleoresin) might be added if desired. Further, it should be noted that the tincture made from fresh English-grown valerian root was double the strength of that made from dried imported root.

#### CONCLUSIONS

1. A general method of assay for aromatic drugs has been worked out and applied successfully to valerian, ginger, cassia, and cinnamon. 2. A method for assaying tinctures and alcoholic extracts of valerian root has been suggested. 3. Vacuum distillation with an excess of glycerin has been found to be the best way of separating the resin and oil occurring in the oleoresin of valerian root. 4. It has been found that the amount of moisture present in an aromatic drug which is being extracted by a volatile organic solvent has a very great influence on the yield of oil obtained.

This research was carried out in the Pharmaceutical Department, the University, Manchester.

#### DISCUSSION

Professor GREENISH (London) characterised this as an interesting paper which might be brought before pharmacists at large. He would not have anticipated that the water would have any effect, and wondered as to its action. He inquired as to whether the therapeutic action was due to the oil or oleoresin.

Mr. FINNEMORE (London) also inquired as to whether it was definitely proved to what the therapeutic action could be attributed. Regarding the estimations in the cases of cassia and cinnamon, he thought the author had been easily satisfied with his results. Cinnamic aldehyde was insoluble in petroleum ether, but the water might to some extent account for the exhaustion. The speaker advocated the paper being divided into two parts for easier reference: (1) Assay of aromatic drugs; (2) assay of valerian.

Dr. BRYANT (Aberdeen) said he had examined several samples of valerian lately, and was glad to get confirmation of his opinion that the English root was superior to the foreign. He suggested that the action of the water was a case of hydrolysis.

Mr. T. EDWARD LESCHER (London) also spoke of the

superiority of the English root, and considered it a pity that the use of the English root was not compulsory. The difference between the roots accounted for the keenness of the Americans to purchase the English variety.

Mr. DEANE referred briefly to the changes which take place on drying.

Mr. WARE raised the point as to whether the reputation of the drug was not based on the odour.

Mr. GRIER, in his reply, said it may have a combination of actions, but he was certain hydrolysis does not take place. The resin was a stimulant and the oil a sedative.

The next paper, also read by Mr. Grier, was as follows:

#### The Accurate Assay of Mercurials in Ointments

By IVY ROBERTS, M.Sc., Ph.D.

##### [ABSTRACT]

THIS research was undertaken in order to determine the relative amounts of mercury and base absorbed through the human skin, studying metallic mercury, and a number of its salts in combination with the different ointment bases. In order to carry out this work it was necessary, in the first instance, to find simple, quick, and accurate methods of assay suitable for carrying out large numbers of determinations, and this paper is an account of the means which were taken to modify and adapt the various published methods of assay, and to discover and remedy their defects. The methods used in the analysis of mercurial salts and preparations may be roughly divided into four main classes:—(1) Solution in nitric acid and titration with sulphocyanide solution, using ferric sulphate indicator; (2) conversion into mercuric sulphide and weighing; (3) solution in standard iodine solution and back titration with thiosulphate solution; (4) precipitation of the metal and weighing as such or deposition of the metal electrolytically. Titration with sulphocyanide solution is the simplest method of mercury determination, and is especially useful for metallic mercury preparations, mercuric oxide, and mercuric nitrate; it is not applicable to the halogen compounds of mercury, as the ferric sulphate indicator does not act in presence of the halogen ion; it could, however, be used for such salts by reducing them to metallic mercury. Precipitation as sulphide is a good general method for mercury estimations, applicable to all compounds after a preliminary treatment; it is a gravimetric estimation, and as such is not so quickly and conveniently carried out as a volumetric determination would be. The third method given, by solution in standard iodine, may be divided into two classes:—(a) Reduction to metallic mercury which dissolves in iodine and potassium iodide, forming  $HgI_2 \cdot 2KI$ . (b) Reduction to mercurous chloride, which also dissolves in iodine and potassium iodide forming  $HgI_2 \cdot 2KI$ . These methods are particularly useful for the halogen compounds of mercury where the sulphocyanide titration is not directly applicable. They are not so convenient and accurate as the latter, and should not replace that method for metallic mercury and mercuric oxide preparations. Reduction to metallic mercury is used in Rupp's method for the estimation of mercuric chloride and ammoniated mercury. The reduction to mercury is brought about by formaldehyde in warm alkaline solution; this is acidified with acetic acid and the mercury dissolved in excess  $N/10$  iodine and the excess titrated with  $N/10 Na_2S_2O_3$ . This method, which has been adopted by the German Pharmacopœia, has been very adversely criticised, and in the author's opinion it is far from reliable. Solution in iodine gives us our best method for the estimation of calomel, and is the one adopted by the U.S.P.; it simply consists of solution of the calomel in  $N/10$  iodine and potassium iodide titration with  $N/10 Na_2S_2O_3$ . The only drawback to the method is the slowness of solution of the calomel; it is advisable to allow it to stand about twenty-four hours, with frequent shaking in a stoppered bottle. Lyons suggests doubling the strength of the iodine solution. This method can also be used for the estimation of other mercurial salts; solutions of mercurous salts are directly precipitated by  $NaCl$ , while mercuric salts can be reduced to mercurous by the addition of phosphorous acid.



## MERCURY OINTMENT

The methods used for this assay are of two types. (1) The fatty matter is removed by means of solvents, and the residual mercury washed well and weighed. This is the method adopted by the U.S.P., but is not accurate when only small quantities of ointment are available. (2) The second method consists of titration of the mercury with  $N/10$   $\text{NH}_4\text{CNS}$ . Rupp's method, which has been adopted by the German Pharmacopœia, gives good results, and was used modified as follows:—

1 gram of ointment was weighed in a small (100 c.c.) wide-necked fat flask and heated with 20 c.c. conc.  $\text{HNO}_3$  till all the mercury dissolved, 25 c.c. water was added and the solution cooled to solidify the fat, strained through cotton wool, and the flask and residual fat washed well with one lot of hot water and four to five lots of cold water, the washings being strained and added to the mercury solution. The strained solution was warmed and oxidised by dropping in 1 per cent.  $\text{KMnO}_4$  till permanently pink decolorised with  $\text{FeSO}_4$  solution and titrated with  $N/10$   $\text{NH}_4\text{CNS}$ .

## MERCURIC OLEATE

The only method for the assay of mercuric oleate found in pharmaceutical literature appears to be that worked out by Naylor, where the mercury is reduced to the metallic state by  $\text{H}_3\text{PO}_2$  dried and weighed, the oleic acid being removed by organic solvents. This method is unsatisfactory, having the same faults as the U.S.P. method for mercury ointment. The modification of Rupp's method used for mercury ointment, however, gave good results both for the oleate itself and for an ointment containing 15 per cent. oleate in benzoated lard, filter-paper being, however, necessary in place of cotton wool to separate the liquid oleic acid from the mercury solution in the case of the pure oleate. A solvent method was therefore devised as follows:—

About 1 gram of ointment accurately weighed in a fat flask was extracted three times with warm petroleum spirit, using 35 c.c., 10 c.c., and 10 c.c., allowing to settle each time and decanting through a double filter. The residue in the flask and the filter were allowed to dry in the air and the dried  $\text{HgO}$  was dissolved in 10 c.c. conc.  $\text{HNO}_3$  with heat. The filter-papers were added, and after complete solution of the  $\text{HgO}$  an equal volume of water was added, the solution was cooled to solidify any particles of fat and strained through cotton wool. The strained liquid was warmed and oxidised as before and titrated with  $N/10$   $\text{NH}_4\text{CNS}$ . This method gave quite satisfactory results. In carrying out this assay it is very important that the first extraction with petroleum spirit should have a volume of at least 35 c.c., as a more concentrated fat solution tends to carry particles of  $\text{HgO}$  through the filter; petroleum spirit was found to give better results than ether.

## CALOMEL OINTMENT

For this ointment the method given by Evers and Elsdon, based on the U.S.P. method for the assay of calomel, was used. Three difficulties were encountered in the process:—(a) The solution of calomel in the iodine solution was slow. (b) The ether solution of fat, if concentrated, carried particles of calomel through the filter, as has previously been observed with yellow mercuric oxide. (c) It was difficult to transfer the whole of the heavy calomel on to the filter. The method was therefore modified as follows:—

About 1 gram of ointment was weighed on to a piece of parchment paper, which was then placed in a stoppered bottle and the fat extracted with three washings of hot petroleum spirit (30 c.c., 10 c.c., and 10 c.c.), allowing to settle and decanting through a filter each time. The filter was well washed with more petroleum spirit until quite free from fat, dried, and then added to the dried residue in the bottle; 2 grams KI and 25 c.c.  $N/10$  I were then added, and the whole left for twenty-four hours, with frequent shaking, or until the calomel was completely dissolved.

The excess iodine was then titrated with  $N/10$   $\text{Na}_2\text{S}_2\text{O}_3$ .

## AMMONIATED MERCURY OINTMENT

The assay of this ointment proved more difficult than those hitherto considered. The method of assay for Hydrarg. Ammon. official in the B.P. by solution in KI and titration of the liberated alkali is not applicable to the ointment. A study of the literature on the subject revealed two processes, both of which proved to be tedious in manipulation. A third method was devised using the reduction to calomel as follows:—1 gram of ointment was weighed in a small fat flask and heated on a water-bath with 25 c.c. dilute  $\text{HCl}$ , with frequent rotation for about half an hour or until the fat was perfectly translucent. This was cooled to solidify the fat, and strained through cotton wool, washing the residual fat well with one lot of hot water and several lots of cold water, so that the strained liquid had a total volume of 170 c.c. To this solution was added 30 c.c. hydrogen peroxide (10-volume strength) and 2 c.c. 30 per cent. hypophosphorous acid (a convenient method of preparing phosphorous acid), and the whole stirred vigorously for a few minutes. The precipitated calomel was allowed to settle, filtered, and watered with water till the washings were free from acid. The paper and precipitate were then transferred to a stoppered bottle, 2 grams KI and 50 c.c.  $N/10$  iodine solution added, and the whole well shaken for a few minutes till the calomel was wholly dissolved. In its freshly precipitated state the calomel is easily transferred to the filter-paper, and very readily dissolves in the iodine. The excess iodine was then titrated with  $N/10$   $\text{Na}_2\text{S}_2\text{O}_3$ .

The method was first tried on powdered ammoniated mercury, B.P., taking about 0.2 gram for each estimation, dissolving in dilute  $\text{HCl}$  and precipitating the calomel as above. Three estimations on the same sample gave the following results:—

97.70 per cent.  $\text{NH}_2\text{HgCl}$ .  
97.48 per cent.  $\text{NH}_2\text{HgCl}$ .  
97.69 per cent.  $\text{NH}_2\text{HgCl}$ .

The B.P. states that it should contain not less than 94.5 per cent. mercuric ammonium chloride, and this gives a very accurate method for its analysis. The advantages of the calomel reduction method may be summarised as follows:—(1) Reduction takes place completely in about three minutes. (2) The precipitate is washed before dissolving in iodine, so that there is no possibility of iodine being absorbed by outside agents as in the case of Rupp's method. (3) Solution of the precipitated calomel in iodine solution is quick; it is generally effected with about five minutes' vigorous shaking. (4) It is easy to see when the calomel has all dissolved, as any undissolved precipitate shows up white in the iodine, whereas in Rupp's method the metallic mercury is difficult to see. The method requires no longer time, and is more reliable than Rupp's method, and is quicker than the Elsdon method. The only disadvantage is the larger factor for the iodine solution: 1 c.c.  $N/10$  iodine = 0.0252 gram  $\text{Hg}_2\text{Cl}_2$ , whereas in Rupp's method 1 c.c.  $N/10$  iodine = 0.0126 gram  $\text{Hg}_2\text{Cl}_2$ .

## MERCURIC SALICYLATE OINTMENT

Before attempting the assay of this ointment, for which no published method could be found, the different ways of estimating mercuric salicylate were examined. The U.S.P. method can be well adapted to the ointment as follows:—1 gram of ointment is digested with 15 c.c.  $\text{H}_2\text{SO}_4$  and 10 c.c.  $\text{HNO}_3$ , and the solution poured into 20 c.c. water, stirred till brown fumes cease to be evolved, and cooled to solidify the fat. This is strained through cotton wool and the residual fat washed well with water. Precipitation is then carried out as for the powder. The sulphocyanide method can be adapted in the same way, and is simpler and quicker in practice. 1 gram of ointment is digested with 15 c.c. conc.  $\text{H}_2\text{SO}_4$  and 10 c.c.  $\text{HNO}_3$  for thirty minutes on a water-bath. The resulting liquid is poured into 20 c.c. water, washing the flask with another 10 c.c. water; the solution is stirred to drive off the fumes, cooled to solidify the fat, and strained through cotton wool. The residual fat is well washed with water, so that the strained liquid and washing have a total volume of about 170 c.c. This solution is oxidised with  $\text{KMnO}_4$  and titrated as before.



## DISCUSSION

Mr. EVERS (London) suggested it would have been more satisfactory if the test had been on mercury instead of ammoniated mercury in the case of that ointment. Regarding the calomel ointment, when he and Mr. Elsdon devised the process they did not encounter any difficulties, but he thought that the modified method was an improvement.

Mr. A. J. JONES (Liverpool) had had erratic results with the sulphocyanide method.

Mr. GRIER (Manchester) remarked that erratic results were also obtained by the authorship by this method.

The next paper was :—

## Acetannin\*

By C. E. CORFIELD, B.Sc., Ph.C., F.I.C., and G. R. A. SHORT, Ph.C.

## [ABSTRACT]

ACETANNIN, which was first introduced into medicine under the trade name "Tannigen," has found considerable use as an intestinal astringent, being especially useful for the chronic diarrhoea of children. The drug depends for its action on its insolubility in water and dilute acids, and on its ready solubility in alkaline fluids. It is described in pharmaceutical works of reference as a substance of definite composition, and represented by the formula  $C_{14}H_8(COCH_3)_2O_9$ , and, as "Tannigen," is official in the German Pharmacopoeia, where it is stated to be a mixture of di- and tri-acetyl tannin. Its composition, in view of the complexity of tannin, appears to be doubtful, and with the object of devising an approximately quantitative test experiments were made with two recent colorimetric methods for the determination of tannins, described by Mitchell. The first of these, in which a special ferrous tartrate solution is used, was found more satisfactory than the method in which advantage is taken of the fact that osmic acid produces a violet coloration with tannin. During their investigation on the application of the former method the authors discovered that gallic acid, which is recommended as the standard for comparison, failed to give a coloration in dilute solutions, unless they were rendered slightly alkaline either by the addition of a little  $N/10$  sodium carbonate or by the use of tap water in making the solutions; whereas tannic acid produced a coloration both in distilled and tap waters. In addition to these marked differences in behaviour it was found that the tints given by the respective acids were dependent upon the concentration of the alkali present. Moreover acetannin is sufficiently soluble in tap water to interfere with the test. It is evident, therefore, that in order to determine free tannic acid in samples of acetannin, which are liable to become slightly acid on keeping, by means of ferrous tartrate reagent, it is necessary to extract with distilled water, and to use a solution of a "pure" gallotannin in distilled water as standard. Therefore, as the result of investigations in this direction, the authors suggest a limit test for free tannin carried out on the following lines:—5 grams of acetannin is shaken for ten minutes with 95 c.c. of distilled water, and filtered. The clear filtrate is transferred to a Nessler glass, 2 c.c. of Mitchell's reagent (ferrous sulphate, 0.1 gram; Rochelle salt, 0.5 gram; water to 100 c.c.) added and diluted with distilled water to 100 c.c. The colour produced is then matched with a standard solution of gallotannin. It seems reasonable that the colour should not be deeper than that produced with a solution of gallotannin, 1 in 100,000, which is equivalent to approximately 0.2 per cent. of free tannin. Melting points for acetannin have been recorded, but it was found that the samples examined, after drying for fifteen minutes at  $100^\circ C.$ , have by no means definite melting points.

In order to determine the conditions necessary for the production of acetannin of fairly constant composition, a number of preparations were made. The process which was found to yield the most satisfactory

results was as follows:—10 grams of tannic acid and 15 c.c. acetic anhydride are heated together on a water-bath for 1 hour; 25 c.c. of alcohol added, and the solution poured into 500 c.c. of water, the precipitate collected, washed, and dried at a temperature not exceeding  $60^\circ C.$  This method was applied to tannic acids of different manufacture, and also to a purified specimen obtained by fractional separation from solution of commercial acid by salting out with sodium chloride. From the results of analysis and other data it is apparent that the acetyl content of the product depends to a large extent upon the tannin. An examination was made of the different tannins used in order to determine any marked variations in composition. The experiments in this direction were confined to the determination of water, optical rotation, reducing sugar produced on hydrolysis, and the amount of gallic acid present, the authors briefly describing the methods adopted in their investigations.

In order to determine the effect, if any, of the gallic acid content of the tannin used on the composition of the acetylated product, a quantity of crystalline gallic acid was treated with acetic anhydride in the same manner as for the preparation of acetannin. On pouring the alcoholic solution into water no precipitate is produced, and the authors conclude that the presence of gallic acid does not cause an appreciable variation in the composition of the acetannin prepared by this method. The effect of washing the acetylated tannin with different quantities of water was investigated. The temperature of drying has a marked effect on the form and colour of the product. Drying at higher temperatures causes acetannin to melt and dry to a vitreous scale. However, it was found that the acetyl content of the product is practically unaffected by a reasonable amount of washing, and also by the temperature of drying. The authors summarise their results by stating that acetannin, as represented by the different commercial samples examined, is not such a pure acetylated gallotannin of definite composition as the formula  $C_{14}H_8(COCH_3)_2O_9$ , which is freely assigned to it, suggests. It varies in acetyl content, colour, and odour, and some of the samples contain an unreasonable proportion of free tannin. In view of the uncertainty of the composition of gallotannin and of the constitution of the "pure" substance, a simple pure acetylated product of the formula given cannot be expected. Acetannin is in all probability a complex mixture of substances, or at least an incompletely acetylated derivative of the complex constituents of tannin. Melting points and acetyl contents are not of real value as criteria of purity, but a limit test for free tannin is desirable, and one based upon Mitchell's colorimetric test with ferrous tartrate solution would be suitable. Acetannin, which is practically white in colour, free from odour, and containing no free tannin, can be prepared in good yields by the foregoing method.

## DISCUSSION

The CHAIRMAN congratulated the authors, who, he said, had solved a long and troublesome problem, and pointed out that this was another paper which had arisen out of the revision of the Codex.

Mr. A. J. JONES (Liverpool) agreed that the paper would be most useful to the export druggist.

The next paper was :—

## The Estimation of Glucose with Benedict's Reagent: A Note on Some of the Factors Affecting its Accuracy

By FRANK WOKES, B.Sc., A.I.C., Ph.C.

## [ABSTRACT]

RECENT developments in the treatment of glycosuria, especially the introduction, in the form of insulin, of a potent remedy capable of accurate standardisation and of use in a strictly quantitative manner, have laid great stress on the necessity for expeditious and accurate methods of estimating glucose. As one example of this, mention might be made of the effect of small variations in the amount of glucose found in diabetic urines, when

\* Contribution from the Chemical Research Laboratory of the Pharmaceutical Society.



calculating the patient's sugar tolerance. This latter, which is of great value in estimating the result of insulin and other treatment, is ascertained by calculating the glucose ingested by the patient during a given period (twenty-four hours), and subtracting from it the amount of glucose excreted in urine during same period. Since the result is a subtraction figure, a small variation in excretion figure may produce a big difference in the tolerance figure. The correct estimation of the excretion figure can be undertaken by any pharmacist who will take the trouble to gain experience of one of the standard methods, such as Fehling's or Benedict's, and especially to understand the various factors which affect the results. In this paper the author presents some data obtained in a series of experiments with Benedict's reagent, which is perhaps the most commonly used in biochemical laboratories throughout the country. This method has been quoted in numerous books, but the author has been unable to find any definite information concerning the various factors affecting the results and the amount of variation they produce. In the hope of throwing some light on the reasons for these variations, the author undertook a series of experiments in which he titrated glucose solutions of known strength against Benedict's solution, and tried to modify one factor at a time while keeping all other factors as constant as possible. In Benedict's solution the copper is held in solution (probably as a complex ion) by the sodium citrate, and there is only a very slight trace of free cupric hydrate. When glucose is added to the hot solution, it is decomposed by the hot alkali into various enolic and di-enolic forms, and it is these which reduce the cupric hydrate. Hence the amount of copper reduced by a given amount of glucose will depend mainly on the amount of enols obtained from the glucose. The author standardised the whole of the apparatus used in his experiments to less than 0.1 per cent. error. The glucose was "Extra Pure Anhydrous," supplied by The British Drug Houses, Ltd. It was kept in a desiccator over conc.  $\text{H}_2\text{SO}_4$ . As a check on absence of moisture, 10 per cent. solutions were made at frequent intervals, and specific gravity taken at  $15^\circ\text{C}$ . As a check on absence of other sugars, the optical rotation of these 10 per cent. solutions was taken on a Lippich 3-field polarimeter of Hilger's make, time having been allowed for mutarotation to be completed. The copper sulphate used in making the Benedict's solution was The British Drug Houses "A.R." make. Standardised against  $\text{N}/10$  thiosulphate, which had been previously standardised against pure  $\text{K}_2\text{Cr}_2\text{O}_7$  of B.D.H. make, the purity was 99.8 to 100.2 per cent., practically within the range of experimental error. All other ingredients in the Benedict's were B.D.H. purest. When titrating glucose solutions against Benedict's solution, difficulty is often experienced in determining when the end point has been reached. Benedict's instructions were to continue adding the glucose solution until the blue colour has entirely disappeared. What actually happens, especially in solutions of low concentrations (i.e., below about 0.7 per cent.), is not the sudden change of colour of boiling reagent from blue to white, but a gradual change from blue to bluish-green, green, greenish-yellow, white. This is noticeable particularly when a white evaporating basin is used. The green colour may appear when less than 95 per cent. of the theoretical amount of glucose has been added, and the final change to pure white with no trace of greenish-yellow does not take place until 99 to 99.5 per cent. of the theoretical end-point, but considerable experience is required to spot it, especially by artificial light. Trial was therefore made of various indicators. Those found most useful up to the present are Lane and Eynon's methylene blue in ternally, and  $\text{K}_4\text{Fe}(\text{CN})_6$  and strong acetic acid (33 per cent.) externally. The methylene blue gives an exceedingly sharp end-point (to within 1 drop provided not too much is used), but care must be taken to allow at least half a minute's boiling between the addition of each drop of glucose solution when within, say, 0.3 c.c. of end point. Potassium ferrocyanide and acetic acid were used by Fehling many years ago, and still form a safe and fairly accurate external indicator. The most satisfactory method of applying it has been found to

make a series of tiny heaps of freshly powdered  $\text{K}_4\text{Fe}(\text{CN})_6$  (each containing about 0.01 gram) on a white porcelain slab, and moisten each with a drop of 33 per cent. acetic acid. On adding one drop of Benedict's solution, a dark red-brown colour is produced. Using this indicator, deep red colours are produced up to 95 per cent. of the theoretical end point, above which they fade through red, pink, to colourless. The external indicator can thus be made to serve as a delicate check on the internal end point, with the advantage that the end point is not lost even if it be overshot. The glucose solution can be added at the rate of a drop every 10 seconds or even less, whereas with methylene blue at least 30 seconds must be allowed. It must be admitted, however, that the methylene blue end-point is much easier to see. One disadvantage of the ferrocyanide and acetic external indicator is that when titrating urines containing glucose, the ammonia evolved owing to action of alkali tends to dissolve some of the cuprous oxide, and obscure the end-point. In the author's experience, this does not seem to have introduced an appreciable error, but the possibility of error led him to look for another indicator, especially when faced with the problem some time ago of estimating a small percentage of glucose in a number of urines containing a large amount of glycuronates, which rendered the use of an internal end point impossible. Recourse was made to the starch and potassium iodide indicator described by E. F. Harrison at the British Pharmaceutical Conference in 1903 for use with Fehling's, and this was found to give good results with Benedict's solution, care being taken to delay acidifying until just before adding the copper solution, and using a row of test-tubes to contain the indicator.

1. *Effect of Varying Degree of Alkalinity.*—To test the result of variation in alkalinity, accurately made solutions of glucose of different strengths were titrated by a standard method against a standardised Benedict's solution containing different weighed amounts of carbonate. Time and degree of heating were also carefully standardised. Taking the generally accepted equivalent for Benedict's solution that 25 c.c. are equivalent to 0.05 gram glucose, the Cu/glucose figure should be 2.292. The author's results, summarised in tabular form, confirmed the view that since a decrease in alkalinity decreased the amount of enolisation, there must also be a decrease in the weight of Cu reduced by a given weight of glucose.

2. *Effect of Varying Amount of Oxidation.*—This factor is rather difficult to investigate, and up to the present time has been found for only a few experiments, in which glucose solutions were titrated in two ways:—(a) Against Benedict's in 120 c.c. Erlenmeyer flask; (b) against Benedict's in evaporating basin and stirred constantly. The first is designed to allow minimum oxidation, the second maximum oxidation. If, however, one follows Benedict's directions to maintain constant vigorous boiling, even in the evaporating basin there is a steady stream of steam evolved, which probably prevents any considerable amount of re-oxidation of the reduced copper. With glucose solutions of 0.4 per cent. concentration or higher, no appreciable difference could be detected in the readings obtained by the two methods, not even when almost the whole of the glucose solution was added cold to the Benedict's in the flask, before heating commenced. With very dilute glucose solutions (about 0.1 per cent.) the Cu/glucose figure came about 1 per cent. higher using flask than using basin, so that a slight amount of back-oxidation appeared to have taken place in the basin. It is difficult when investigating this factor to avoid variations due to other factors, and if one might venture to express an opinion, it would seem a pity that this factor is the only one to be mentioned in the text-books, while others which may produce much larger errors are ignored.

3. *Effect of Varying Time of Heating.*—In the standard method used in this work, the reagent was heated in an evaporating basin of 9 cm. diameter over a Bunsen burner sufficiently strongly to raise it to boiling point in about three minutes. As soon as it had commenced to boil, glucose solution was allowed to run in



from a burette at the rate of one drop a second. The total time of heating varied from eight to ten minutes, the heat being reduced to an amount only just sufficient to keep the reagent gently boiling, whereupon the glucose solution was added at the rate of one drop every three or four seconds, total time of heating being twenty minutes. This raised Cu/glucose figure about 2 per cent. Heating tends to concentrate the solution, and thereby increase the degree of alkalinity. In the experiments where time of heating was lengthened, the degree of heating was reduced correspondingly, to keep the volume unaltered.

4. *Effect of Varying Concentration of Glucose.*—This is the most important factor in all estimations of reducing sugars. Reduction of glucose concentration lowers the Cu/glucose figure, the curve obtained becoming steeper and steeper as concentration falls, so that for accurate work it is necessary to ensure that the concentration is above a certain point. With Benedict's reagent the minimum is usually given as 0.5 per cent. glucose. From the results obtained by the author it would seem safe to go down to 0.3 per cent., provided that all other factors are carefully standardised. The results were checked by repeating a number of estimations with fresh solutions made from a fresh supply of glucose, which was also B.D.H. "Extra Pure Anhydrous," and also with Benedict's reagent made from a fresh supply of copper sulphate B.D.H. "A.R.," when agreement was obtained within the limits of experimental error. The results, contained in a table, show considerable deviation from Benedict's equivalent, which gives Cu/glucose figure 2.292. The concentration of sodium carbonate was the same throughout—in proportion of 12½ grams cryst. for each 25 c.c. Benedict's. Increase of this concentration up to the maximum amount given in text-books (i.e., up to 20 grams cryst. sod. carbonate for each 25 c.c. Benedict's) would not increase Cu/glucose figure more than about 1 per cent., but this higher concentration tends to produce "bumping" and "spitting."

*Application of Results to Urine Analysis.*—Urine must be diluted to bring the concentration of the glucose down to between 0.3 and 1.0 per cent. The necessary degree of dilution may be found from the specific gravity of the urine, which gives a rough idea of per cent. glucose present, as Table III below. In a porcelain evaporating basin put 20 or 25 c.c. Benedict's reagent, with 10 or 12½ grams cryst. sodium carbonate respectively, and heat over full Bunsen, noticing time heating commenced. Have diluted urine ready in burette fixed with tip at least 6 in. above basin (to avoid heating the burette), and so that drops fall on to the side of basin (to avoid splashing). As soon as the reagent commences to boil, stir with a glass tube to ensure that all carbonate has dissolved, then commence running in at one drop a second. When the colour begins to change from blue to bluish green, add urine more slowly, stirring with a glass tube with fine tip, and commence spotting out with external indicator, using above-mentioned precautions. End point should be reached within 8 to 10 minutes from time heating commenced. Calculate result on Benedict's factor (25 c.c. reagent equivalent to 0.05 gram glucose). To correct for error due to dilution, divide result by figure given on right-hand side of graph, and multiply by 100. With a little experience, the pharmacist should be able to estimate the amount of glucose present within 1 or at most 2 per cent., whereas an inexperienced person ignoring the factors described here may make 5 or even 10 per cent. error, producing a serious error in the tolerance figure. The excretion figure is, of course, obtained by multiplying per cent. glucose found by number of grams passed in twenty-four hours. This latter figure is commonly quoted only approximately to the pharmacist receiving the sample. To overcome this difficulty the author now supplies patients with Winchester ½-gallon bottles graduated in c.c., and containing about 1 drachm of toluol as preservative, for collection of twenty-four hour samples. Benedict's solution should be stored in bottles of actinic glass, and kept in a warm place to prevent the carbonate from crystallising out.

TABLE III.—SPECIFIC GRAVITY AND SUGAR CONTENT OF DIABETIC URINES

S.G. at 15° C.	No. of samples	Average per cent. glucose	Suggested dilution for estimation with Benedict
1.045	2	9.5 (6.5 to 12.5)	1 in 20
1.043	4	7.7 (5.4 to 9.6)	
1.042	7	6.6 (5.5 to 9.0)	
1.041	2	6.2 (5.6 to 6.8)	
1.040	7	5.8 (4.0 to 7.9)	1 in 10
1.039	3	6.6 (6.1 to 6.9)	
1.038	4	6.1 (4.2 to 5.1)	
1.037	5	5.3 (4.5 to 6.2)	
1.036	3	4.3 (3.0 to 6.7)	1 in 5
1.034	1	3.8	
1.032	4	4.6 (3.0 to 5.6)	
1.030	3	3.3 (3.3 to 3.4)	
1.029	1	3.0	1 in 3
1.026	1	4.0	
1.024	2	2.3	
1.020	3	1.3	

Except for the determination of optical rotations, the work in connection with this paper was carried out in the biochemical laboratory at Grassendale Pharmacy.

## DISCUSSION

Mr. C. H. HAMPSHIRE (London) confirmed the author's statements that practice is necessary, particularly when working without indicators and following Benedict's original method. The sugar tolerance is now usually estimated from the blood rather than the urine, but Benedict's solution is extremely useful when calculating it from the latter.

Mr. EVERS (London) mentioned that it was important to distinguish between the qualitative and quantitative solutions.

Mr. GERRARD (Birmingham) referred to the paper he read before the Conference thirty years ago, dealing with a solution similar to Benedict's (*C. & D.*, II, 1892, p. 317).

Mr. DEANE (London) inquired as to the advantages of Benedict's solution over that of Fehling.

Mr. STAINER (Folkestone), who made a similar inquiry, said he had been using Mr. Gerrard's solution for years. Was the copper cyanide method open to serious errors?

Mr. WOKES, in his reply, said some medical men prefer the urine test for sugar tolerance. Benedict's solution is quite stable provided it is protected from light, and in winter kept at a temperature to prevent crystallisation. The end-point, he considered, is also easiest to see with this solution, and after a little experience it is not more cumbersome in use. The copper cyanide method is liable to errors as great as Benedict's, and has not the same advantages as to stability and end-point.

The next paper, which, in the absence of the authors, was read by Mr. Hampshire, dealt with:—

## A Note on Stainless Iodine Ointment

By H. B. MACKIE, PH.C., and EDNA SHARMAN.

## [ABSTRACT]

We found that working with the formula and method of the Codex, even under the controlling conditions of the laboratory, it was practically impossible to keep the loss of iodine below 22 per cent. The temperature was not permitted to rise above 50° C. It is to be presumed that the pharmacist, working under the usual conditions, would find the loss would be greater. We decided from this that a new formula and method were called for. We turned our attention to other materials with a relatively high iodine value. Assuming that a neutral preparation is desired, we excluded oleic acid. Linseed oil first suggested itself; lest the odour be deemed an objection we experimented with other fixed oils, and decided that arachis oil was, on the whole, the most suitable. After protracted tests we submit the following formulas:—

A				B			
Iodi	...	...	5	Iodi	...	...	5
Ol. lini	...	...	10	Ol. arach.	...	...	10
Paraff. moll.	...	ad	100	Paraff. moll.	...	ad	100



Rub the iodine with the oil in a warm mortar until solution is effected. Add the melted soft paraffin, mix thoroughly, transfer to an evaporating basin and heat gently on a water bath until combination is complete, as indicated by the development of a greenish colour.

Prepared from formula A the loss of iodine is too slight to be detected. Formula B, a minute loss seems unavoidable, but it is small enough to be negligible. The result of this examination may be summed up in the following manner, that the stainless iodine ointment of the Codex, as generally supplied, is seldom stainless, and the authors never found it to contain even approximately 5 per cent. of iodine.

#### EXPERIMENTAL DATA

*Unguentum Iodi Denigrescens*, B.P.C.—Maintained at a temperature of 50° C. on a water bath for a period of twenty minutes, loss in weight = 0.165 grams. Wash the ointment at this stage with a solution of potassium iodide and titrate the washing with sodium thiosulphate, ascertaining by this means that 0.353 gram of iodine remained in solution uncombined. This is typical of many experiments.

*Examination of Proprietary Article*.—Weighed 12.62 grams of sample and extracted with potassium iodide solution. This on titration showed in an equivalent amount of the foregoing the presence of 0.05 grm. of iodine remaining in solution uncombined.

*Saponification Values*.—A mixture of iodine and soft paraffin 5 per cent. was boiled with alcoholic potassium hydrate under a reflux condenser. It was found to absorb 0.45 gram potassium hydrate. This test was repeated with a proprietary article, when an equivalent amount was found to absorb 0.73 gram potassium hydrate. The difference between these two readings would indicate the presence of 10 per cent. of a fixed oil of approximately the molecular weight 880.

*Assay of Combined Iodine in the Finished Product*.—The ointment was saponified, the soap dissolved out in aqueous solution, the iodine as potassium salts being present in the aqueous medium. The fatty acids and iodine were released by the addition of acid, and dissolved out in ether. The iodine titrated with sodium thiosulphate solution.

*Determination of Iodine Values*.—Soft paraffin 0.585 gram was used and allowed to remain in contact with Wijs' solution for twenty-four hours at 20° C. No iodine was absorbed. Chesebrough's vaseline under similar conditions gave an iodine value of 11.6.

#### DISCUSSION

Mr. GRIER (Manchester) referred to the variability and complex nature of the paraffins on the market.

Mr. HAMPSHIRE (London) pointed out that the novelty was in the use of a vegetable oil to fortify the absorbent power of the paraffin; some experimenters have used oleic acid. He thought vaseline was better than soft paraffin.

Dr. STEPHENSON (Edinburgh) inquired if the ointment prepared in this form was neutral or acid.

Mr. GERRARD (Birmingham) asked as to the object of the medical men, and if they desired to get the iodine into the skin.

Mr. FINNEMORE (London) said there was considerable difference in therapeutic effect between an ointment made with soft paraffin and one with a vegetable oil, and he suggested the paper should have been further developed—as, for example, the results of iodine values should have been determined with more paraffins than those given.

Mr. RUTHERFORD HILL (Edinburgh) expressed a doubt as to the expediency of introducing variety into a semi-official formula. Investigation was required for a standard for paraffinum molle, and it should be brought into line with the proprietary preparation. When vaseline is used as a basis, results vary considerably, according to the temperature. The standard for ung. molle also required revision.

Mr. BOYES (London) considered the authors should have arranged for clinical tests of these two samples.

Dr. BRYANT (Aberdeen) offered a paper on the variability of paraffins by iodine value for the next Conference.

The final paper, as follows, was read by Mr. E. W. Mann, Ph.C. :—

#### Laboratory Notes

By J. F. LIVERSEEGE, Ph.C., F.I.C.

#### [ABSTRACT]

At one time a dispenser might have said, "I have selected my drugs, I have prepared my galenicals, and I have dispensed the prescription." Modern requirements have necessitated the division of labour, and consequently the division of responsibility. Suppose a panel chemist, whom we will call "A," obtained some Liq. Ferri Perchlor. Fort. from a wholesale house "B," and that it had been manufactured by "C." Subsequently it is diluted to make Liq. Ferri Perchlor. by "D," dispensed in a medicine by "E," and the medicine analysed by "F." If the responsible panel chemist "A" is asked by the Insurance Committee to explain why the dispensed medicine does not agree with the prescription, he will be more likely to blame either the analyst or the dispenser than to consider the responsibilities of the other persons in the series, or the possibility that the Pharmacopœia text may be somewhat responsible for the error in the dispensed medicine. The following notes are mostly the result of investigation which has followed the analysis of samples of medicine dispensed by panel chemists, including some remarks on the defects of the British Pharmacopœia.

*Liquor Sarsæ Co., Conc., B.P. 1898*.—Decoctum Sarsæ Co. was given by the 1885 B.P., but omitted by that of 1898, when Liq. Sarsæ Co. Conc. was given in its place, the quantities ordered being eight times that of the decoction. Recently a prescription ordered 90 grains of potassium iodide in 8 oz. of Dec. Sarsæ Co., and the resulting mixtures contained 3.3 w/v to 6.2 w/v of total solid matter, the theoretical figure for potassium iodide being 2.6. This large variation suggested the examination of samples of Liq. Sarsæ Co. Conc., and 10 samples were obtained, supplied by seven different wholesale houses. The halogen content was determined and expressed as KI. The total mineral matter was determined as sulphates by adding H<sub>2</sub>SO<sub>4</sub> to the liquid, evaporating and igniting, the treatment repeated, and the residue weighed; the results were higher than if H<sub>2</sub>SO<sub>4</sub> was added to the ash. The following are the results, all expressed in grams per 100 c.c. :—

No.	Total solids	Halogen expressed as KI.	Mineral matter weighed as sulphates
1	27.2	1.9	2.0
2	24.9	2.4	2.5
3	27.9	1.5	2.3
4	11.3	0.7	2.0
5	13.6	1.8	2.6
6	15.6	2.2	3.7
7	9.7	1.6	3.0
8	15.7	1.9	3.1
9	14.0	1.5	3.9
10	7.6	0.5	1.8

Samples 1 and 2 were from one maker, and probably 3. Samples 4 and 5 were from another, and the remainder from different makers. It is a remarkable thing, and not a very creditable one, that the solid matter should vary from 7.6 to 27.9. Determinations carried out by Mr. E. W. Mann, B.Sc., F.I.C., in the laboratory of Southall Bros. and Barclay, Ltd., yielded the following results :—

Ingredients	Chlorides expressed as Cl.	
	Drug %	Decoction w/v.
Sarsaparilla (Jamaica), No. 1	0.61	0.077
Sarsaparilla (Jamaica), No. 2	0.38	0.047
Sarsaparilla (Mexican)	0.38	0.047
Liquorice Root ..	0.23	0.002
Sassafras Root ..	0.41	0.005
Mezereon Bark ..	0.10	0.001
Guaiacum Wood	0.15	0.001

These results show that the sarsaparilla contributes a large proportion of the chloride in the decoction.

*Liq. Ferri Perchlor. Fort.*—The analysis of mixtures in which Liq. Ferri Perchlor. had been ordered indicated an excess of iron. One pharmacist explained the excess as being due to his assistant measuring 160 minims in a



measure graduated only at 2 and 3 drachms. Another said the inaccuracy was due to two separate quantities being measured, viz., 120 and 40 minims. The author attempted to measure 160 minims in this way in a conical glass measure, and twice obtained 159 minims. Attention was next given to the strength of "Solution of Ferric Chloride," of which nineteen samples were bought from retail pharmacies. One sample contained 3.5 w/v of Fe, another 4.55, a third 5.13, and the remaining sixteen from 5.3 to 6.1 w/v, the average of the eighteen samples being 5.49 w/v. Evidently the majority of the samples contained more than 5.0 w/v, the amount required by the B.P. Between the limits of 4 and 6 w/v the relation between the specific gravity and the iron is approximately represented by the following formula:—

$$w/v \text{ Fe} = 44 \text{ (sp. gr. — 1.049)} + 4.0.$$

A sample of Liq. Ferri Perchlor. Fort. had a specific gravity 1.491, which agreed with the B.P. "about 1.49," but instead of 20 w/v of iron 22.7 w/v was present. This indicated that the B.P. statements regarding specific gravity and iron content were not concordant, and suggested that the excess of iron in the samples of Liq. Ferri Perchlor. might be due to the manufacturers adjusting their preparations to agree with the approximate specific gravity standard rather than the precipitation test. After dealing with the principal differences in this preparation in the last three Pharmacopœias, the author remarked that the 1914 B.P. requires 5 c.c. to yield 1.42 grams of  $\text{Fe}_2\text{O}_3$ , which is equivalent to 19.86 w/v Fe, and not to 20 w/v as the B.P. states just below. One fails to see why the figure should not have been given as 1.43, which is almost exactly equivalent to 20 w/v, though it is probably more satisfactory to give limits as in 1895.

**Quinine Sulphate.**—Owing to some samples of medicine containing an excess of quinine, seven samples of the sulphate were bought from pharmacies. The amount of moisture varied from 3.7 per cent. to 12.0 per cent., with an average of 6.4 per cent., not one of them corresponding with the  $7\frac{1}{2}$  molecules, or 15.3 per cent., of water required by the B.P. description. The 1838 B.P. required the freshly prepared salt to lose 15.2 per cent. of moisture on heating. This test was omitted in the 1914 B.P., and nothing put in its place. Both Pharmacopœias remark under "Characters and Tests" that the crystals effloresce on exposure to dry air until two molecules of water remain. What, therefore, is the amount of moisture in the B.P. salt? Is it  $7\frac{1}{2}$  molecules, as required by the description, or anything between that and two molecules, as is suggested by the latter statement? The retail samples given above show how variable the salt is, and one wholesale sample contained 3.9 per cent. of moisture. There is also the financial question. If anyone buys the salt containing  $7\frac{1}{2}$  molecules of water, and, after keeping, sells it with two molecules of water, corresponding to a loss of 11.2 per cent., his profits will suffer accordingly. The author suggests that to avoid this uncertainty in composition, the next B.P. should make official the fairly stable salt containing two molecules of water of crystallisation, instead of the present variable one with  $7\frac{1}{2}$  molecules; or, if that is not practicable, that limits should be given for the amount of water in the official salt.

**Ferri Sulphas.**—Some mixtures in which Ferri Sulphas was ordered contained an excess of iron, and the suggestion was made that the salt was very efflorescent. The iron in seven retail samples, calculated to  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$  varied from 100.3 per cent. to 100.9 per cent. The samples on exposure to the air in small quantities became practically constant in weight in about twelve days, losing about 19 per cent. of moisture. About an ounce of the granular sulphate was put in a wide-mouth, stoppered bottle, and left open to the air. In fourteen weeks the loss was 5.6 per cent., and part of the sample showed efflorescence by its whiteness. Although the rate of loss is not serious, it might be advisable for the Pharmacopœia to give an upper as well as a lower limit of composition.

**Iodine Paint.**—Five samples analysed bearing this label contained 2.2 to 3.0 w/v of iodine. As it is desirable that the article a patient receives on asking for iodine paint should not show serious variation without an indica-

tion on the label, the author suggests that when iodine paint is sold, the label should indicate its composition by a second statement. For instance, "Iodine paint (Weak Tincture of Iodine)" or "Iodine Paint (Strong Tincture of Iodine)," or whatever is the usual preparation sold.

#### DISCUSSION

Mr. GAMBLE (London) said the Conference appreciated Mr. Liverseege's paper, as he had made a serious effort to clear up difficulties, and the thanks of the meeting should go to him.

On the proposition of the chairman, seconded by Mr. Gamble, a vote of thanks was passed to the authors of the papers.

#### Closing Session

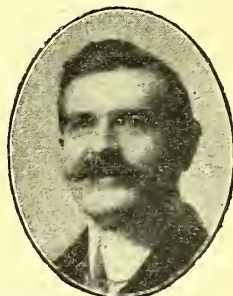
The closing session of the Conference was held in the Guildhall at 11 a.m. on July 24. The chairman, Mr. Edmund White, said the first item was the presentation of books to the Bath Branch of the Pharmaceutical Society from the Bell and Hills Fund. A number of books had been selected by the Branch, which he asked them to accept and make good use of, particularly for the good of the students and apprentices.

Mr. D. J. WILLIAMS, accepting the gift, expressed the thanks of the Bath Branch to the trustees.

#### PRESENTATION TO MR. R. R. BENNETT

The CHAIRMAN said it was now his pleasant duty to make a presentation on behalf of the Conference to Mr. R. R. Bennett—(applause)—who had retired from the joint honorary secretaryship. The Conference would not be satisfied to let him go without giving him some tangible object to commemorate the years of office. After paying a tribute to Mr. Bennett, he thought it not wise, in the presence of Mrs. Bennett, to say too much about him—(laughter)—or she might think there was a conspiracy between them. (Laughter.) The gift consisted of a silver cigarette box and Chippendale chairs, which were for Mrs. Bennett. (Applause.) Handing Mr. Bennett the cigarette box, the chairman said they all knew how he had served the Conference, and they wished Mrs. Bennett and himself every health and prosperity.

Mr. BENNETT, who was warmly received, said he felt inadequate to the task of expressing his thanks for those gifts, which he felt were a token of esteem and regard and, might he say, affection. (Applause.) He could only thank them. The years during which his period of office extended had been exceptionally eventful ones. Looking back he felt proud of the fact that, despite the war, they carried on the work of the Conference, though the meetings were shorn of the social functions which gave so much pleasure; but, thanks to the energy of their war-time Presidents, Major Peck, Dr. Hooper, Mr. C. A. Hill and Mr. Kirkby, they had an annual address. He believed that in no year did they have less than one scientific paper. Then, again, thanks to their friend, Mr. Braithwaite, the editor of the "Year-Book," they had a year-book for every one of the war years, and he did think that was a record of which pharmacy might be justly proud. (Hear, hear.) Quite apart from those gifts, he felt he had been more than repaid for anything he had done, because of the opportunities that were afforded him of making friends. Perhaps it was not quite fair to mention any names at that stage, but he would refer to Mr. Lloyd Howard, who had been treasurer during the whole of his tenure of office. (Applause.) Then, of course, there were Mr. Hampshire and Dr. Crossley Holland. In thanking them once more, he associated his wife in his acknowledgments, because



MR. R. R. BENNETT, B.Sc.



she was going to be just as proud of those splendid gifts as he was. He did hope he would be permitted to serve the Conference for many more years, and in that way he would, perhaps, be able to prove the sincerity of his gratitude. (Applause.)

Regarding the proposed amendment to Rule 7, the CHAIRMAN moved the addition of the words, "If not paid by June 1, after due notice, membership shall cease." It was necessary to know by a certain date who were entitled to year-books. He hoped that not many would have to be dealt with under the altered rule.

Mr. SARGEANT seconded, and this was carried.

#### ELECTION OF OFFICERS

Mr. A. H. JENKIN (London), in moving the election of various officers, said they had nothing to do with the appointment of Mr. Sargeant, the President of the Pharmaceutical Society, and three members of its Council, Messrs. Marns, Parry and Skinner, on the Executive Committee. The Conference simply accepted them. (Laughter.) He then proposed that the following be elected officers for the ensuing year:—

*Chairman.*—Edmund White.

*Vice-Chairman.*—F. W. Gamble.

*Treasurer.*—D. Lloyd Howard.

*General Secretaries.*—C. H. Hampshire, F. W. Crossley Holland.

*Local Secretary.*—P. M. Duff.

*Vice-Presidents.*—C. Symes, E. M. Holmes, G. Claridge Druce, T. H. W. Idris, W. A. H. Naylor, R. Wright, J. F. Tocher, F. Ransom, E. H. Farr, E. S. Peck, D. Hooper, W. Kirkby, C. A. Hill, H. G. Greenish.

Other members of Executive Committee.—The President of the Pharmaceutical Society of Ireland (*ex officio*); the chairman of the North British Branch of the Pharmaceutical Society of Great Britain (*ex officio*); Messrs. R. R. Bennett, C. E. Corfield, H. Deane, N. Evers, H. Finmore, B. F. Howard.

Mr. SCHOLES seconded.

Mr. SARGEANT supported, and this was passed.

The CHAIRMAN, speaking on behalf of the others, said they accepted office with the greatest pleasure.

#### INVITATION TO GLASGOW

Mr. MACMILLAN (Glasgow) said it was his duty and privilege to come there as chairman of the Glasgow and South-Western Branch to invite the Conference to visit Glasgow in 1925. During the past quarter of a century it had paid visits to three Scottish cities, and it was now twenty-eight years since it went to the commercial capital of Scotland.

Mr. ARTHUR supplemented the invitation.

Mr. SIMMONS (Manchester) moved that they heartily accept the invitation.

Dr. STEPHENSON seconded, and the invitation was accepted with acclamation.

Mr. HUMPHREYS JONES (Liverpool) proposed a vote of thanks to the members of the Local Committee. He paid special tribute to Mr. and Mrs. Hallett, Mr. D. J. Williams, Mr. Thompson, and Miss Jenkin (the secretary of the Ladies' Committee).

Mr. RUTHERFORD HILL seconded, and it was carried with loud applause.

Mr. D. J. WILLIAMS, in responding, thanked the Conference most heartily for their kind words. They in Bath deeply appreciated it. They owed the success to the help and enthusiasm of every member of the Local Committee, whose efforts he acknowledged.

Thanks were passed to the chairman with acclamation on the proposition of Mr. PIDD (Manchester), Mr. APPLETON (Sheffield) seconded. The chairman briefly replied.

INDIAN CHEMICAL SOCIETY.—An Indian Chemical Society, with headquarters in Calcutta, has been formed, of which Sir P. C. Ray is the president, with Dr. J. L. Simonsen and Professor G. J. Fowler, vice-presidents; Professor J. N. Mukherjee, secretary; Professor P. C. Nutter, treasurer; and Dr. E. R. Watson, editor of the Society's "Journal," the first issue of which is to appear in August.

## The Social Side

### MORE "CLEWORTH" PHOTOGRAPHS

Mr. John Cleworth, 56 Ducie Street, Manchester, who has specialised for many years in photographing at the British Pharmaceutical Conference, has produced a large number of pictures of the gathering at Bath. The photographs fully maintain the standard for which Mr. Cleworth is noted, and as souvenirs of the Conference many visitors make a point of collecting those in which they are particularly interested. Mr. Cleworth supplies half-plate photographs at 1s. each (post free). We printed eight of the photographs last week, and give more this week. The following is a complete list, those with the titles in italics being the photographs reproduced in THE CHEMIST AND DRUGGIST:—

1. *Group of officials with Mayor of Bath* (C. & D., July 26, p. 130).
2. *Party leaving for Limply Stoke Valley* (C. & D., July 26, p. 154).
3. *Bowls: the Conference team* (C. & D., July 26, p. 154).
4. *Bowls: the Mayor's team* (C. & D., July 26, p. 154).
5. *Group of Mr. Noble, Mr. Bennett, Mr. Keall and Dr. Crossley-Holland* (C. & D., July 26, p. 155).
6. *Ladies on the putting green* (C. & D., July 26, p. 155).
7. *Manchester pharmacists putting* (C. & D., July 26, p. 155).
8. Group of Lady Glyn-Jones, Mrs. Gamble, Mrs. White
9. Cosham Court, with Mr. and Miss Jenkin, Mrs. Hallett and Mr. Marus in foreground
10. *Group at Corsham Court*
11. *Near view of group at Corsham Court.* (Crosses indicate Lord and Lady Methuen.)
12. *Group of Glasgow delegates*
13. Group of visitors (mostly from Liverpool) on edge of Roman bath
14. *Merseyside contingent at Roman bath*
15. Councillors Marns and Skinner with others at Roman bath
16. Group of Scottish delegates
17. *Veterans of Pharmacy* (Messrs. R. Feaver Clarke, A. J. Pidd, A. W. Gerrard and R. Bremridge)
18. Mr. A. Higgs, J.P., Mr. T. Hardy and Mr. A. R. Keith
19. *Group of Masonic brethren*
20. *Mr. A. J. Taylor, F.S.A., addressing Conference visitors at the Roman bath*
21. *Local Committee with Mayor and Mayoress at Cheddar*
22. *Yorkshire delegates*
23. *Lancashire delegates*
24. London delegates
25. *Ladies' putting competition at Sydney Gardens*
26. Sir William Glyn-Jones and Mr. Edmund White on the putting green
27. *Tennis enthusiasts at Sydney Gardens, Mr. Sargeant in centre*
28. *The international bowlers. Back (left to right): Messrs. Downing, Skinner, Tocher, Glass. Front (left to right): Messrs. Keith, Dow, Bayne, Arthur.*
29. Motors in Cheddar Gorge
30. Messrs. Bennett and Hampshire
31. Mr. Sargeant and Dr. Bryant
32. Messrs. D. J. Williams, Hill, Corfield and P. J. Thompson
33. *Conference visitors at tea. Sir William Glyn-Jones, Mr. Lloyd Howard and Mr. Gamble in foreground*

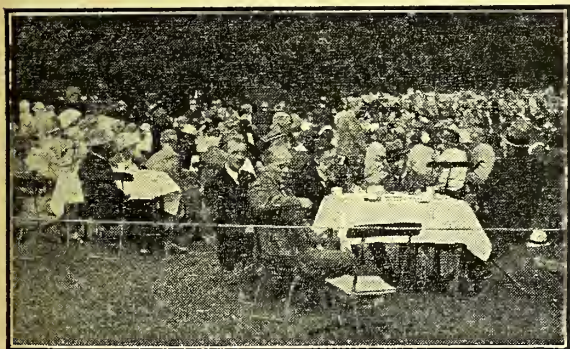
\* \* \*

A commendable system was adopted for arranging in which charabanc a visitor was to travel for the motor tour to Cheddar and Wells on Thursday. The charabancs had been numbered, and at the luncheon cards bearing corresponding numbers were handed round. Leaving Bath at 1.15 p.m., the *voyageurs* journeyed through Newton St. Loe, Corston, Farrington Curney, and Chewton Mendip, arriving at Cheddar shortly after 3 p.m. The beautiful colourings and formations in



Gough's Cave, referred to in the *C. & D.* "Guide," left amazed those who visited the cave for the first time. After tea at the Cliff Hotel, the journey was continued to Wells. Unfortunately, there was no time for a halt in order to visit the Cathedral, and the tour was continued via Radstock, Bath being reached about 7 p.m. The weather was fine, though mostly dull; visibility was good. This enabled the tourists to view the "heights" of the Gorge without inconvenience, and the Westbury White Horse, the Bristol Channel, and Glastonbury Tor could, with the help of the guides, be easily distinguished.

The usual smoking concert which winds up the Conference took place in the concert hall of the Baths at 9.30 p.m. on Thursday. It proved to be a reversion to the old type, arranged by the former organisers, Drs. Crossley Holland and Stephenson, and it provoked roars of laughter. The director of the Baths, when a token was presented to him, said with a touch of irony that



Photo]

[Cleworth

CONFERENCE VISITORS AT TEA  
Sir William Glyn-Jones, Mr. Lloyd Howard and Mr. Gamble  
in foreground.

the memory of the concert would take a lot of living down. Presentations were also made to the chairman of the Local Committee, Mr. Williams; to the two secretaries, Mr. Thompson and Mr. Hallett, jun.; and to Mrs. Hallett. Refreshments were served at 11 p.m., and most of the company adjourned to the Grand Pump Room for the closing dance. In spite of all the paraphernalia of a carnival night, the lack of a master of ceremonies was felt by some who, even after four days, were still strangers to each other. About 1.30 a.m. some bright spirit broke through convention and persuaded the band to give "Paul Jones." From this point to closing time, at 2.15 a.m., the dancing was general, and the greatest good humour and hilarity prevailed.

Friday was allocated to sports, but the powers that be prevented Friday's events being recognised as part of the Conference. Why these events are treated with coldness is difficult to understand. The golfers, under Mr. Olds, went to the Lansdown links, where that fine golfer, Mr. C. A. Whitcombe, presides. There were only twelve who turned up to play in the singles. The course is 750 feet above sea-level, and proved sufficiently trying to the golfers, quite apart from the trees, fences and hay lying around to swallow up erring balls. The winners of the singles were:—

Mr. Twigg, Withensea	...	...	85	—	14	=	71
Mr. Gray, Walthamstow	...	...	85	—	10	=	75
Mr. Gamble, London	...	...	93	—	18	=	75

The last two tied for the second place. Owing to rain, it was not possible to play the foursomes in the afternoon.

Tennis was organised by Miss Jenkin and Mr. Moore, but owing to rain coming on at 12.30 only the first couples could play. Bowls was arranged by Mr. Hawes, and it was possible to get the matches played before rain was troublesome. The winners were Messrs. Arthur

and Glass, who beat Messrs. Keith and Walker (15—2). Putting was arranged by Mrs. Hawes and Mrs. Olds. It was a sporting green, but most of the ladies had practice games before the competition proper. The result was that Lady Glyn-Jones and Mrs. Downing tied for first place with 51 for the eighteen holes. The prize at night was won by Lady Glyn-Jones on cutting cards, as rain prevented the tie being played off.

The international bowls had been arranged by Mr. H. Skinner, and teams representing England and Scotland were ready to play off for the London chemists' challenge cup, won last year by Scotland; rain prevented play, however, until 5.30 p.m.; when, owing to the lateness of the hour, it was agreed to play eleven ends. The teams were: *England*.—Messrs. T. Marns, Ealing; W. Gray, Walthamstow; A. R. Keith, East London; and W. Burgess Dow, North London (skip). *Scotland*.—Messrs. W. S. Glass, Edinburgh; R. Smith, Stornoway; H. P. Arthur, Glasgow; T. Bayne, Edinburgh (skip). The match was keenly contested, at the fifth end the Englishmen being 9—1; but a change came over the scene, and at the tenth end the Scots were 18—9. For the last end Dow's men put in a seven, and the game ended 18—16, giving the cup to Scotland, for the second year in succession, by two points. In the evening there was a gathering of those left from the Conference in the official room at the Grand Pump Hotel, and at an interval during the scratch entertainment the prizes and trophy were presented. While some of the visitors stayed over the week-end, the great majority of the last members vanished by road or train on Saturday morning.

The official Conference photographs, taken by Mr. Graystone Bird, show groups at the Roman Bath and at Corsham Court. Measuring 12 in. by 28 in. each, and excellently produced, they are obtainable from Mr. Bird, 38 Milsom Street, Bath, at 15s. the pair (8s. for one), post free.

## New Books

*E. Merck's Jahresbericht.* Vol. XXXVI. 8½ in. by 5½ in. Pp. 494. E. Merck, Chemical Works, Darmstadt. [The English translation of Merck's Annual Report was in former years well known to many British pharmacists as a universal review of recent literature on therapeutic progress, new methods of analysis, etc. The issue covering the past year (in German) includes a chapter on the synthesis of cocaine, special monographs on a number of glucosides, saponins, and a preliminary note on a new crystalline body which is invariably present, together with digitoxin, on extracting the latter from digitalis leaves, and which was found to be present in amounts above the average in leaves of the 1921 crop. A special monograph is devoted to a description of bismuth compounds, which have of recent years acquired such importance in the treatment of syphilis. The remainder of the work is devoted to the usual survey of the literature on medicinal agents, arranged in alphabetical order.]

Liénard-Fievet, Ch.—*Manuel de Blanchiment-Teinture*. 6 in. by 4 in. Pp. 383. Francs 16. Librairie J.-B. Baillière et Fils, 19 Rue Hautefeuille, Paris. [A practical manual for the guidance of dyers, designed to impart to the operatives engaged in this work a knowledge of the various processes involved in dyeing. The inorganic and organic chemicals are briefly discussed; in fact, this part of the work forms quite a useful compendium of tinctorial chemistry, chemical formulas, notes on the mode of manufacture and their uses in dyeing processes being included. The second part is devoted to a description of the characters, qualities and properties of cotton, wool and silk, and the treatment to which they are submitted for adaptation to their ulterior uses. A special chapter deals with the importance of water in dyeing. The subject-matter, which covers a wide range, is clearly presented, and the manual contains a wealth of useful information.]



## Toxicity of Local Anæsthetics

IN a lengthy communication, recording the reports of forty-three unpublished cases of death following the use of local anæsthetics, submitted to the committee for the study of toxic effects of local anæsthetics of the American Medical Association by its chairman, Dr. E. Mayer ("Journal of the American Medical Association," March 15, 1924), the following points are emphasised:—Such accidents are more frequent than is commonly supposed. The ordinary channels of medical publication do not obtain this information as successfully as a special professional committee. Accidents occur with the more recently introduced synthetic anæsthetics as well as with the older agents; and the symptomatology is very similar in all. Dyspnoea and the arrest of respiration within a few minutes after the administration are especially characteristic; so much so that it is questionable whether later deaths can be charged to anæsthetics. Unexplained differences of susceptibility probably exist, but the committee believes that the observance of the concentrations recommended will reduce the risks very materially, if not altogether. This does not question the right of the surgeon to depart from these concentrations. But he may see that, in exceeding them, he is treading on dangerous ground. A proportion of cases is still referable to avoidable mistakes for which definite remedies are suggested. The committee advises strongly against the routine use of morphine and adrenalin in the treatment of accidents. This is not to be interpreted as a criticism of the proper use of morphine before operations to quiet nervous patients, nor in the addition of adrenalin to the anæsthetics before injection to diminish the absorption of the anæsthetic agent. The reporting of such accidents is a duty which the physician owes to others as well as to himself; to others because the study of such information is at present the only means by which accidents may be reduced. The local anæsthetics that caused the forty-three deaths reported upon are classed as follows:—

Alypin	...	...	...	...	...	1
Apothesin	...	...	...	...	...	4
Butyn	...	...	...	...	...	4
Butyn and cocaine	...	...	...	...	...	1
Cocaine (alone and with procain)	...	...	...	...	...	26*
Procain	...	...	...	...	...	2†
Stovain	...	...	...	...	...	1
Not classified	...	...	...	...	...	2
Due to causes other than local anæsthetics	...	...	...	...	...	2

\* The local anæsthetic is only contributory to the cause of death in at least one of these cases.

† The committee does not believe that the dose of procain (2.5 grains) recorded in one case caused death.

The fact that alypin and stovain each caused only one of these deaths does not indicate that they are of low toxicity, and the relative infrequency with which they are used should be borne in mind. Two members of the committee report that apothesin caused most frequent complaint among those who reported to them, especially because of sloughing that followed its use. The five deaths reported after the use of butyn, alone or in combination with cocaine, indicate the necessity of caution in its use. Two of these deaths followed within a few minutes after the application of a 5 per cent. solution of butyn to the nose. Its use is still in the experimental stage. Cocaine, alone or in combination with adrenalin, caused the greater number of deaths in this series. It was used in solution in concentrations varying from 0.5 to 20 per cent., and in the form of a paste, and with adrenalin. It abolishes reflexes and induces satisfactory local anæsthesia when applied to mucous membranes. The committee concluded that this can be accomplished without danger by the use of carefully measured amounts of solutions of low concentration, which should be applied only locally to the field of operation. Procain (novocain) is used far more frequently than any other local anæsthetic, but it caused only one (possibly two) of the fatalities. This statement must not under any circumstances be taken to justify the

careless use of procain, for it is certainly capable of causing sudden death when used without proper care. In summarising the results of the reports, the committee states that it has been impossible to determine with absolute certainty the relative danger of all modes of application of the various anæsthetics. Concentrated solutions of cocaine and cocaine with fairly large doses of adrenalin injected into the tissue have caused the greater number of fatalities. The local application of a small amount of dilute solution of cocaine alone (but of sufficient concentration to cause complete anæsthesia) has caused no death, except some of those following urethral injection, of which the committee has been able to learn. Procain (novocain) is certainly far safer than any of the other local anæsthetics in common use, but that does not mean that procain should be used without caution, for it is capable of causing death when large doses are injected into the tissues. Butyn, alypin, apothesin, stovain and cocaine are probably about equally dangerous when injected into the tissues, and when concentrated solutions are applied. However, the committee acknowledges that it has not been able to add materially to its knowledge of the comparative value of the several local anæsthetics in special fields of medicine. In conclusion, the committee expresses the opinion that local anæsthesia can be safely induced if the following recommendations are complied with: Cocaine should not be injected into the submucous tissue or subcutaneously. Cocaine paste ("mud") should not be used as a pre-operative measure. Its use in that way is unreservedly condemned. Local anæsthetics should not be injected into the urethra when trauma or stricture exists. Especial care should be exercised in the use of local anæsthetics when constitutional disease of a grave character exists. The committee believes that local anæsthetics may be applied safely in the following concentrations and total amounts: Cocaine in the mouth and epipharynx (pre-operative), 5 per cent.; in the nose, not over 10 per cent., and in total amounts of from 10 to 15 minims, containing from 1 to 1.5 grains; in the eye, not over 5 per cent.; in the larynx and bronchi, not over 20 per cent.—preferably 10 per cent. in two applications—and not over 15 minims total, containing from 1 to 1.5 grains. Procain (novocain) should not be used in greater concentration than 1 per cent.; apothesin not greater than 2 per cent. and not more than 1.5 grains; butyn should not be injected, but may be applied in 2 per cent. solution. Adrenalin serves a valuable purpose in causing a bloodless field and in delaying the absorption of the local anæsthetics, especially procain, but the addition of adrenalin in amounts of 1 milligram or more to a solution of cocaine often results in a greater degree of toxicity than that from cocaine alone when rapid absorption takes place; hence, the use of larger doses of adrenalin with cocaine is deemed unsafe, and adrenalin should not be used in greater concentration than 1:10,000, and of this not more than 10 minims with cocaine. Somewhat larger total amounts of adrenalin may be used with solutions of procain, but not more than 1 milligram of adrenalin should be used, and even this dose may be unsafe in patients suffering with hyperthyroidism. Further investigation of the actions of adrenalin are urgently needed.

**INQUIRY ON TRADE.**—A Committee has been appointed: To inquire into and report upon the conditions and prospects of British industry and commerce, with special reference to the export trade, and to make recommendations in regard thereto.

The Committee is constituted as follows:—Sir Arthur Balfour (chairman), Mr. John Baker, Sir W. H. Beveridge, Mr. Henry Boothman, Mr. W. T. Charter, Mr. C. T. Cramp, Mr. Hugh Dalton, Sir Harry Goschen, Mrs. M. A. Hamilton, Mr. F. A. Hargreaves, Sir Norman Hill, Bt., Sir John S. Hindley, Mr. David Landale, Sir W. Clare Lees, Mr. P. J. Pybus, Mr. Arthur Shaw, Sir Allan Smith, Sir Hubert Llewellyn Smith. The reply from one further proposed member is outstanding, owing to absence abroad. The secretary (to whom communications should be addressed) is Mr. Walter Carter, Board of Trade, Great George Street, London, S.W.1.



## Trade Report

42 Cannon Street, E.C.4, July 31.

WITH the approach of the chief holiday month of the year business is slackening off, and not until the end of August is any revival anticipated. Among drugs, a feature has been the rise of 7s. 6d. per cwt. in cascara sagrada of the new peel, and a good business has been done. New crop senega has been easier of late, but a fair amount of buying has taken place. Cochineal is dearer, as anticipated. Menthol is easier in the absence of support. American peppermint oil is scarce on spot, and the new will be later this season. Maltese cumin seed to arrive is dearer, and Dutch caraway seems to have touched bottom. Opium is the subject of conflicting reports as regards the new crop, it being apparent that strenuous endeavours are being made in Turkey to maintain present high prices, in spite of the restricted demand brought about by legislation. Among pharmaceutical chemicals the chief activity is limited to a few items only, such as aspirin, bromide salts, chloral hydrate, phenacetin, potassium permanganate, thymol, etc. Salicylic acid and sodium salicylate are irregular. Tartaric and citric acids have a tendency to ease. Among industrial chemicals, buying has been for chiefly small lots, and there is little change in the spot position. Acetic acid is again lower, while acetone and lead acetate tend easier; imported red and white lead and litharge are dearer. Potassium carbonate is a trifle easier. Changes in coal tar products show a further decline in pyridine and a weaker feeling in carbolic acid crystals. In the vegetable oils section castor shows a further substantial advance, and palm is tending upwards. Coconut, cotton and palm kernel oils are all firm.

Higher	Firmer	Easier	Lower
Cascara sagrada	Acid oils	Acetone	Acetic acid
Castor oil	Cassia oil	Carbolic acid	Bergamot oil
Cedarwood oil	Cotton oils	Crystals	Caraway oil
Cochineal	Lemon oil	Citronella oil	(Dutch)
Coriander seed	Mustard seed	(Jv.)	Orange oil
Cumin seed	(Eng.)	Coumarin	Pyridine
Maltese (c.i.f.)	Palm oils	Cream of tartar	White oils
Litharge	Pimento	Lead acetate	
Red and white lead		Menthol	
Turpentine	Steadier	Mint oil	
		Potash carbonate	
	Creosote oil		
	Glauber salt		

### Exchange Rates on London

The following is a list of Continental and other exchange rates against the pound sterling on London prevailing at 4 p.m. on Wednesday:—

Place	Method of Quoting	Par of Ex-change	July 23	July 30
Amsterdam	Fl. to £	12.107	11.497—11.501	11.51—11.51½
Berlin	M. to £	20.43	18.40—18.60 bilus*	18.40—18.45 bilus*
Brussels	Fr. to £	25.22½	95½—96	96.90—97.00
Calcutta	Per rup.	24d.	17½d.—17¾d.	17½d.—17¾d.
Christiana	Kr. to £	18.159	32.83—32.86	32.36—32.40
Constantinople	Pst. to £	110	855—865	860—875
Greece	Dr. to £	25.22½	254—256	254—257
Italy	Lire to £	25.22½	101½—102	101½—101¾
Kobe	Per yen	24.58d.	22½d.—22¾d.	22½d.—22¾d.
Lisbon	Escu.	53½d.	1¾d.—1¾d.	1¾d.—1¾d.
Madrid	Pts. to £	25.22½	32.89—32.91	33.00—33.02
Montreal	\$ to £	4.86½	4.42½—4.42½	4.41—4.41½
New York	\$ to £	4.86½	4.39½—4.39½	4.39½—4.40½
Paris	Fr. to £	25.22½	85.85—85.90	87.85—87.90
Singapore	Per dol.	—	27¾d.—28¾d.	27¾d.—28¾d.
Switzerland	Fr. to £	25.22½	23.94—23.97	23.75—23.77
Vienna	Kr. to £	24.02	312,000—315,000	311,000—314,000

\* Nominal.

### Cablegram

NEW YORK, July 31.—Business is fair. Curaçao aloes have advanced to 9½c. per lb., and Cartagena ipecacuanha to \$1.95. Copaiba is dearer at 36c. per lb., and saccharin has advanced to \$1.90 per lb. Balsam peru is lower at \$1.80 per lb.

### Crude Drugs, etc.

• **ANTIMONY.**—The dullness of trade demand caused a further sagging in Chinese regulus, which could be easily got on the spot at £40. C.i.f. terms for forward shipment are also easier at about £32. English refined is selling in small lots at £44 10s. up to £47 10s. for high-purity brands.

**BALSAM CANADA** is quoted at 6s. 6d. per lb. on the spot. **CASCARA SAGRADA** is dearer, with an advancing tendency. Business has been done at 65s., 68s., and 70s. per cwt. c.i.f., with 72s. 6d. per cwt. asked in five ton lots. A limited quantity of three-year-old bark is offered at 170s.

**CHAMOMILES** are marking time in view of the proximity of the new Belgian crop, and prices remain unchanged.

**CINNAMON** is not too plentiful on spot, and prices for all the lower qualities are higher. New crop will be available shortly, but there is as yet no indication as to whether prices will be affected. Firsts on spot is 1s. 1½d., seconds 1s. 1d., and thirds 1s.

**CLOVES.**—Zanzibar are steady with spot sellers at from 1s. 1d. to 1s. 1½d. per lb., as to quality. Sales include parcels afloat at 1s., August-October shipment at 11¾d., and October-December at 10¾d. per lb., c.i.f. London, closing sellers in the latter position at 10¾d. For the week ended July 26 the landings in London were 600 bales and the deliveries 1,755 bales, leaving a stock of 26,087 bales, against 14,610 bales in 1923 and 4,048 bales in 1922. The landings so far this year have been 37,254, against 25,998 in 1923, and the deliveries 30,554, against 13,417 last year.

**COCHINEAL.**—Up to 2s. 1d. per lb. net has been paid for blacks, which are now quite unobtainable in London or Liverpool. Spot stocks of s.g. are moderate, and the price has advanced to 1s. 11d., and of silvers there are only five bags available, for which 2s. 2d. per lb. is asked.

**COD-LIVER OIL.**—Our Bergen correspondent writes, on July 26, that the market remains dull with only small sales. A firmer tendency is, however, noted, with finest steam-refined oil offering at from 90s. to 91s. per barrel, c.i.f. London.

**COUMARIN** on the spot is cheaper at from 18s. to 18s. 6d. per lb.

**GINGER** is steady, with only limited quantities of African offering at 80s. per cwt. Washed rough Cochin is 92s. 6d., Calicut 100s., Cochin B cut 135s., C 120s., Japanese is 90s., and Jamaica 140s. to 170s. for small to bold.

**GRINDELIA ROBUSTA.**—Twelve bales have arrived from San Francisco.

**HYDRASTIS** remains very firm at 17s. 3d. per lb., and not much to be had. New York reports a good demand for export.

**JUNIPER BERRIES** are selling at 18s. per cwt. on the spot.

**LEPTANDRA.**—New crop is offered at 1s. 2d. per lb. c.i.f., which is regarded as a fair price.

**MENTHOL** is easier at 45s. per lb. for Kobayashi-Suzuki on the spot.

**MERCURY.**—There does not seem to be much in the reported improved aspect of the market since our last issue, this being apparently due to efforts by dealers to stiffen the market, although this is admittedly not inconsistent with the continued independent attitude of the first-hand Continental sellers. We hear that in the latter part of last week business was done at £12 15s. down to £12 10s. per bottle, while it is asserted that a good deal was actually sold by second-hand holders at £12 17s. 6d. However, in the earlier part of this week sellers in some cases raised their terms on the spot up to £13 5s. per bottle, owing to a slightly better demand, while it is understood that a few hundred bottles were taken for



export to Hongkong. On Wednesday, however, the value sagged to £12 15s. to £12 17s. 6d.

MUSK XYLOL is quoted on the spot at 14s. per lb.

OPIMUM.—Owing to conflicting reports regarding the situation in Turkey, new crop sellers appear to have temporarily withdrawn and no quotation is available at the moment.

CONSTANTINOPLE, July 23.—“During the past fortnight arrivals consisted of eight cases druggists’ and eight cases Malatia, while stocks amounted to: druggists’, 156; ‘softs’, 17, and Malatia, 13 cases. Locally only nine cases Malatia were sold at £27s. 26. On the other hand, fairly large amounts have been purchased in the interior, for which over £170 have been paid for delivery in Constantinople. Several lots have been purchased for delivery in Aleppo. Some consignments destined for London have been purchased by Turkish speculators who have been paid as much as 25s. per lb. It is now established that the last rains which fell during the period of collection have caused serious damage. The few cases which have arrived show that the opium has been collected during the rains, and these have a content below 11 per cent., Harrison. However, it is still impossible to estimate the yield of the new crop. In certain districts original estimates will have to be reduced by 50 per cent., and in others by one-third.”

PEPPER.—Fair black Singapore has been sold at from 5d. to 4½d. per lb. on the spot, closing at the lower figure. White pepper is firm at from 8½d. to 8½d. per lb. spot; August-October has been sold at 8½d. to 8½d. c.i.f.; and October-December at 8½d. to 8½d., c.i.f. London, for f.a.q. Sellers of Java-Muntok quote 9d. to 9½d. c.i.f.

PIMENTO is firmer at 3d. per lb., and to arrive business has been done at 2½s. 6d. per cwt. c.i.f. Export demand has been better. The London stock at the wharves is 2,863 bags, against 6,868 bags at this time last year.

PLATINUM has been tending upward, partly under stronger American reports notifying an advance to \$118 per oz. The chief refiners on this side are now asking £27 10s. per oz.

PODOPHYLLUM ROOT.—New crop American (*Peltatum*) is offered at 77s. 6d. per cwt. c.i.f. to come forward, and for Indian (*P. Emodi*) 110s. is quoted.

RUBBER is again better, and has appreciated ¾d. per lb. since our last. We find that America has been buying very heavily in the East, where the parity at one time was fully ¾d. per lb. over the London market. It therefore appears that America is willing to pay much higher prices to Singapore in order to keep away from the London market. The tendency continues steady, and although there are considerable fluctuations, the general trend of prices is undoubtedly upward. There has been more demand for “off” grades during the past few days, but we find that home manufacturers are not buying with any regularity. Landings during the past week exceeded deliveries by 444 tons, and the present London stock stands at 51,950 tons. Quotations (Wednesday, 5 p.m.):—No. 1 standard crepe and ribbed smoked sheet, spot and August, 1s. 0½d.; September, 1s. 0½d.; October-December, 1s. 0½d.; January-March, 1s. 1¼d. per lb.

SEEDS.—There is little or no alteration in the seed market, and prices remain as follow:—ANISE: Spanish is quoted at 75s., and Russian at from 61s. to 65s. per cwt. CANARY SEED is quiet; Mazagan on the spot is 27s. 6d. per cwt., and business has been done to arrive at 27s. 6d.; Spanish of good quality on the spot is quoted at 34s. 6d. CARAWAY SEED, Dutch 55s. per cwt. on the spot, and for prompt shipment 47s. 6d. is quoted; Morocco 70s.; CUMIN SEED, Malta 105s. per cwt., Morocco 97s. 6d. on spot; to arrive, Maltese has advanced to 97s. 6d. c.i.f. CORIANDER SEED has been sold at 24s. 6d. per cwt. on the spot for new crop; DILL SEED, 20s. to 21s. per cwt.; FENNEL SEED, Indian 38s. to 40s. per cwt.; FENUGREEK SEED, Morocco 20s., and Spanish 18s.; HEMP SEED, 17s. 6d. per cwt.; Morocco LINSEED has been sold at 23s. per cwt. c.i.f.; MUSTARD SEED (English), 36s. per cwt., with some asking 38s. per cwt., crop being on the short side.

SENEGA has been in fair demand during the past fortnight: the spot value is 3s. 1d. per lb., and new crop to arrive is 2s. 6½d. c.i.f.

SHELLAC has been dull throughout, the price of usual standard T.N. orange quality being from 262s. 6d. to

265s. per cwt.; fine to superfine second orange is 300s. to 360s.; A.C. cakey, 265s.; and G.A.L., 260s., all spot. For delivery, the sales include T.N. for October at 250s. to 247s. 6d.

STARCH PRODUCTS.—Dutch maize starch powder (corn-flour) is quoted at 18s. 3d., and American at 18s. 3d. per cwt. net, on the spot. American maize starch crystals is 22s. 6d. net, and Dutch 23s. Best English rice starch crystals is 33s., and Continental 28s. per cwt. Dutch farina is 18s. 6d.; new crop for October shipment is 16s. 6d. f.o.b. Superior Dutch dextrin is 24s. 6d., and No. 2, 23s. 6d.; American canary dextrin is 21s. 3d., and white 21s. per cwt., ex store, London.

WAX, VEGETABLE.—Japanese is quiet at 90s. per cwt. on the spot, and at 81s. c.i.f. for July-August shipment.

### Essential Oils

THERE is a fair demand this week, with more inquiry in some directions. American cedarwood continues to advance. Lemon oil is dearer to come forward, but bergamot and orange are cheaper. Java citronella is quiet and easier. Cassia is firmer, and American peppermint oil is scarce on the spot and firm. Mint oil is cheaper.

ANISE (STAR).—“Red Ship” is dull on the spot at 2s. 4d. to 2s. 4½d. per lb. July-August shipment is quoted at 2s. 1½d. c.i.f.

BAY.—West Indian distilled is offered on the spot at 9s. 3d. to 9s. 6d. for 48 per cent. phenols. For 53 to 54 per cent. 10s. 9d. is quoted.

BERGAMOT is cheaper to come forward at about 17s. per lb. c.i.f. On the spot there are sellers of 38 per cent. oil at 17s. to 17s. 3d.

BOIS DE ROSE (FEMELLE).—On the spot, supplies are offered at from 18s. 6d. to 19s. 6d., according to seller.

CAMPHOR.—White essential on the spot is quiet at 60s. for drums and 63s. for cases. Brown is quoted at 65s.

CARAWAY.—Dutch double rectified has been sold on the spot at 23s. per lb. Offers of new crop double-rectified have been offered down to 14s. c.i.f.

CASSIA is firmer on the spot and difficult to obtain below 7s. 3d., with some asking 7s. 6d. for 80 to 85 c.a., and 7s. 6d. c.i.f. to arrive.

CEDARWOOD.—American is dearer on the spot, holders quoting 2s. 4d. to 2s. 6d. per lb. Still higher prices are predicted.

CINNAMON.—Ceylon leaf is quiet at 6d. per oz., and 5½d. c.i.f. to arrive.

CITRONELLA.—Ceylon on the spot is unchanged at 3s. 4½d. per lb., and 3s. 3d. c.i.f. to arrive. Java oil is cheaper on the spot, with sellers at 5s. 4d. per lb. August-September shipment is lower at 5s. 2½d.

CORIANDER is quoted at 40s. per lb. for small lots.

GERANIUM.—Bourbon oil is firm on the spot at from 34s. to 35s. per lb. Very large shipments have been made from Réunion since January. Algerian on the spot is 35s. to 36s.

LEMON has advanced at the source for some brands following an improved demand, and from 2s. 10d. to 3s. 0½d. per lb. c.i.f. is quoted. Speculative sales of new crop oil have been made at 2s. 10d. per lb. for January shipment. On the spot holders quote generally at the unchanged rate of 2s. 10d. to 3s.; for certain brands higher prices are asked.

LEMONGRASS.—Cochin on the spot has been in slightly better demand at 3s. 5½d. to 3s. 6d. per lb. The price quoted for shipment is 3s. 3d. c.i.f.

LIME.—West Indian distilled is in demand and is firm at 5s. 3d. to 5s. 6d. per lb., as to quality. On the spot, hand-pressed is quiet at about 9s.

LINALOE.—Mexican wood oil is now available on the spot at 19s. 6d. per lb. for limited quantities.

MINT.—Japanese dementholised Kobayashi-Suzuki is quiet and easier on the spot at 13s. 6d. to 14s. per lb. July-August shipment is quoted at 13s. c.i.f. to arrive.

ORANGE.—Sicilian sweet is cheaper to come forward at from 9s. 6d. to 10s. per lb. c.i.f., prompt shipment, as to brand. Spot is quoted at 10s. to 10s. 6d. December-January shipment is offered in some directions at 9s. 3d. c.i.f. to arrive. West Indian oil is unchanged



with sellers at 9s. to 9s. 3d. Californian sweet is cheaper at 6s. 9d.

PALMAROSA in large drums is quoted at 17s. per lb.

PENNYROYAL.—Spanish has been offered from Spain on the basis of 7s. per lb. c.i.f. to arrive.

PATCHOULL.—The spot value for fair Penang oil in drums is 17s. 6d. per lb.

PEPPERMINT.—The new American crop is somewhat later this season, and, before it arrives on this market, the scarcity of best brands now prevailing is likely to be intensified. Spot holders quote 19s. to 20s. 6d. per lb. as to brand. Sales have been made at 18s. 6d. c.i.f.

PETITGRAIN.—Petitgrain on the spot is steady at from 8s. 3d. to 8s. 6d. per lb.

ROSEMARY.—Higher prices are asked for Spanish to come forward. Spot demand is slow at unchanged rates from 1s. 9d. to 1s. 10d. per lb.

SPIKE.—Spanish is steady on the spot, with fair demand at 4s. 6d. per lb. in quantity. Prices from Spain are above this figure.

THYME.—Spanish red is quoted at 4s. 3d. to 4s. 6d. per lb. for 30 per cent.; for 40 per cent. 5s. is quoted, and 5s. 3d. to 5s. 6d. for 45 per cent. for spot supplies.

#### Pharmaceutical Chemicals, etc.

THE slight improvement in business reported last week seems to be still in evidence. This activity, however, appears to have been limited to a few lines that have been moving briskly. The majority of items, however, are still suffering from lack of demand. Prices are much about the same as last week.

ACETANILIDE continues to be quoted on spot at 2s. 1d. to 2s. 3d. per lb., but business has been slow.

AMIDOPYRIN is seldom asked for; dealers quote about 14s. 3d. per lb.

ASPIRIN.—A good business continues to be done, with prices maintained. From 3s. 2d. to 3s. 5d. per lb. is quoted for B.P., according to quantity.

BARBITONE is still offering on spot at about 15s. to 15s. 6d. per lb., with little moving off.

BENZONAPHTHOL remains dull at about 5s. 3d. per lb.

BETANAPHTHOL.—Resublimed is steady, but not active, at about 3s. 6d. per lb.

BENZALDEHYDE (.03) has met with some inquiry, with the quotation in the region of 3s. 4d. to 3s. 6d. per lb.

BROMIDES.—The spot market is reported practically bare of supplies of good quality, but further supplies are coming forward; prices for same are bound to be high, however. Inquiry for good quantities is still on the market. German prices are very dear. Ammonium, 1s. to 1s. 1d. per lb.; potassium, B.P. crystals and granular, about 10d. per lb.; sodium, B.P. crystals and granular, about 11d. per lb. Some isolated parcels of doubtful quality are offering at cheaper rates. The German makers quote ammon. at 2s. 2d., potassium at 2s. and sodium at 2s. 1d. per kilo, f.o.b.

CALCIUM LACTATE continues to sell fairly well in smallish lots, with prices close up to 1s. 7d. to 1s. 8d. per lb., and a shade less for big lots.

CHLORAL HYDRATE.—Last week's higher prices are fully maintained and the market continues fairly active. Dealers offer duty-paid crystals at about 3s. 10d. to 4s. per lb.

CITRIC ACID.—Business has remained rather quiet for the time of year, and the quoted price of 1s. 5½d. per lb., less 5 per cent. for quantities, seems difficult to obtain for B.P. crystals.

CREOSOTE (B.P.) is steady on a quiet market at about 2s. 6d. per lb.

HEXAMINE is still finding a limited business, with dealers' prices at about 3s. 6d. to 3s. 7d. per lb.

HYDROQUINONE is steady and in firm request at 4s. 3d. to 4s. 9d. per lb.

LACTIC ACID holds steady, with dealers quoting from 2s. 8d. to 2s. 9d. per lb. for B.P., according to quantity.

METHYL SALICYLATE is irregular on spot, with dealers asking from 1s. 10d. to 2s. 1d. per lb. for quantities.

METHYL SULPHONAL remains dull, with spot values mentioned close up to 26s. per lb.

PARAFORMALDEHYDE has been inquired for occasionally, with the price about 2s. 11d. to 3s. per lb., as to quantity.

PARALDEHYDE holds at last week's better rates of 1s. 5½d. to 1s. 6d. per lb., with inquiry being dealt with.

PHENACETIN keeps very steady, with a good business passing. Dealers' prices are fully held at 6s. to 6s. 4d. per lb., according to quantity.

PHENAZONE shows no change, with the market quietly steady as quoted at 7s. 9d. to 8s. per lb.

PHENOLPHTHALEIN is not at all steady as quoted in the region of 6s. 6d. per lb.; market quiet.

POTASSIUM PERMANGANATE.—Plenty of inquiry is on the market, with quotations for quantities in drums close up to 7½d. to 8d. per lb. for B.P. crystals.

POTASSIUM SULPHOGUAIACOLATE is neglected; quoted at about 6s. per lb., nominal.

RESORCIN holds at last week's rates of 5s. 6d. to 5s. 9d. per lb., but there is nothing like a good demand.

SACCHARIN (550).—Market keeps very steady at previous rates: 62s. 9d. to 65s. per lb., duty paid, according to quantity.

SALICYLIC ACID (B.P.) continues irregular on spot and quotations vary from 1s. 6d. to 1s. 7½d. per lb., and some few large lots might be a shade less; business quiet.

SODIUM BENZOATE is steady on a quiet market at about 2s. 6d. per lb. for spot.

SODIUM CITRATE is quoted at from 1s. 11d. to 2s. 2d. per lb., according to quantity for B.P.C. 1923.

SODIUM DIETHYLBARBITURATE is seldom called for; dealers quote up to 17s. per lb.

SODIUM SALICYLATE.—For some days the market has been irregular, with prices varying, but the feeling is towards rather better values. B.P. crystals are offering in some quarters up to 2s. 5d., but about 2s. 4d. per lb. would seem to be the average price. Powder is quoted close up to 2s. 3d. per lb.

TANNIC ACID.—B.P. *leviss* shows no change at from 2s. 11d. to 3s. per lb.

TARTARIC ACID.—There has been perhaps a little more inquiry on the market this week, but sales at the quoted rates are difficult to make. The tone is far from healthy, and any move is likely to be to somewhat easier rates. Quoted at about 1s. 1½d. to 1s. 2d. per lb., less 5 per cent. according to quantity, for P.B. crystals.

THYMOL.—Some very good business has been done, with about the cheapest lot moving at about 16s. 9d. per lb. for a large quantity afloat. The price now governing the market is well up to 17s. 6d. to 17s. 9d. per lb., for quantities.

VANILLIN.—The tone is rather firmer here, and some quarters are now quoting steadily at 24s. 6d. to 25s. per lb. for 100 per cent. pure.

#### Industrial Chemicals, etc.

London, July 30.

THERE is little change in the general spot position, but one or two items show further weakening in values, the most important being acetic acid. Red and white lead are dearer for imported. Business has been fair, but mostly for small quantities.

ACETIC ACID, which weakened last week, shows a further fall in value, and the market is still far from active: 80 per cent. technical, about £43; 80 per cent. pure, about £44 per ton, in barrels; 98 per cent. glacial, about £69 per ton, in glass demijohns, ex wharf, London.

ACETONE is, if anything, rather cheaper this week on a dull market. Easy as quoted at about £100 per ton for B.G.S., in drums.

ALUM is steady but in limited demand, with dealers quoting about £10 per ton for lump, in casks.

AMMONIA (ANHYDROUS) continues to find a fair business, and prices are steady at 1s. 5½d. to 1s. 6d. per lb. for 99.95 per cent., in loaned cylinders.

BARIUM CHLORIDE is steady at about £14 per ton for 98 to 100 per cent. white crystals on spot.

BLEACHING POWDER is offering from the Continent for shipment at well below the spot rate of £9 15s. to £10 per ton for 35 to 37 per cent. available chlorine.

CREAM OF TARTAR is rather easier this week, with nothing like the former business coming on the market. Dealers are quoting 99 to 100 per cent. powder at about 84s. to 85s. per cwt. for ton lots.

EPSOM SALT keeps steady, with the spot value at £5 per ton, in bags, for commercial quality.

FORMALDEHYDE is dull and unsteady. The price mentioned is about £54 per ton for 40 per cent. volume, in casks, but better terms might be accepted. Carboys are about 8s. per cwt. extra.

GLAUBER'S SALT is rather firmer, with little offering below £3 15s. per ton for commercial quality, in single bags.

LEAD ACETATE is just a point easier in value, but the market may recover. Brown, £44 10s. to £45; white, £45 10s. to £46 per ton.

LEAD PRODUCTS.—A further material advance in importers' prices is recorded owing to a similar move in the price of metal. Red lead and litharge, about £42 10s.; white lead, dry, about £43 10s.; ground in oil, about £45 10s. per ton, c.i.f. London. Business is small, but the market is firm.



LITHOPONE continues to find buyers, with dealers quoting steadily at £22 to £22 10s. per ton for 30 per cent. Continental red seal.

OXALIC ACID remains very flat, with the quoted rate unchanged at 4½d. per lb., and this figure is not firm.

POTASH CAUSTIC keeps very steady, with the spot price for 83 to 92 per cent. solid at £30 per ton, in drums.

POTASSIUM CARBONATE is a shade cheaper this week for spot supplies, and at these lower rates sales have been better, with the market steady: 90 to 92 per cent., £23 per ton; 96 to 98 per cent., about £24 10s. per ton.

POTASSIUM CHLORATE continues to be offered in small lots on spot at about 3d. per lb., while the price for shipment from the Continent in quantities is a little below this figure.

POTASSIUM PERMANGANATE is being landed frequently in good quantities, with dealers obtaining something close on 7d. to 7½d. per lb. for commercial, in drums.

POTASSIUM PRUSSIAN remains idle. Dealers are offering British and Continental make at about 7½d. per lb. for yellow.

SODIUM ACETATE shows no change, with the spot value about £24 per ton.

SODIUM CHLORATE is steady as offered from the Continent for shipment at about 2½d. per lb., c.i.f. for large quantities.

SODIUM HYPOSULPHITE keeps steady and sales have been up to expectations: Pea crystals, about £14 to £14 5s. per ton, in one-cwt. kegs; commercial quality, about £9 10s. to £9 15s. per ton, in casks.

SODIUM NITRATE.—This market shows no life, and will probably remain idle up to the end of August. Prices quoted are nominal: 96 per cent., £13 5s.; refined, £13 12s. 6d. per ton, f.o.r. London. Liverpool, about £13 2s. 6d. and £13 10s. per ton.

SODIUM NITRITE has been in rather better demand, with London sales at £26 to £26 10s. per ton.

SODIUM PRUSSIAN is still a dull item, with dealers quoting at about 4½d. to 4½d. per lb. for British and Continental.

SODIUM SULPHIDE remains flat, with prices unchanged: 60 to 62 per cent. solid, £14; ditto, broken, about £15 per ton, in drums.

COAL-TAR PRODUCTS, ETC.—The volume of business is still by no means great, but the tone of the market is fairly steady. This week one or two items show a further decline in value. ANILINE OIL is still mentioned by British makers at 7½d. to 9d. per lb., naked, ex works, but the little business passing would possibly be at cheaper rates. ANILINE SALT is unchanged on quotation at 7½d. to 8½d. per lb., naked, ex works, with the market dull. BETANAPHTHOL is steady but quiet at 1s. 1d. to 1s. 2d. per lb. TOLUOL.—Pure, 1s. 8d. to 1s. 10d.; 90's, about 1s. 5½d. per gallon. There has been little life in the market. XYLOL.—Pure, 3s. 3d.; commercial, 2s. 3d. per gallon; market still quiet, with values unchanged. CREOSOTE OIL is steadier after last week's big reductions in value, but the market is still far from active, about 6½d. to 6½d., ex works, and about 7d. per gallon, f.o.b., for quantities. CARBOLIC ACID CRYSTALS show a further weakness this week, with the market anything but active. Offers for large quantities, f.o.b., are made at about 6½d. to 6½d. per lb.; crude is quoted at works at 1s. 9d. to 1s. 11d. per gallon, naked. CRESYLIC ACID keeps very steady and in fair demand: quoted at 2s. 1d. to 2s. 2d. per gallon for 97 to 99 per cent. NAPHTHALENE is slow of sale, with dealers offering foreign make at about £16 10s. to £17 per ton for flakes. PYRIDINE shows a big fall again this week. Quotations for good quantities are down to about 17s. 9d. to 18s. per gallon. HEXAMETHYLENE remains dull at about 3s. 8d. to 3s. 9d. per gallon. PURE METHYL ALCOHOL is in little inquiry; dealers' price is unchanged at about £30 per ton, in drums, ex wharf, London. PITCH.—The quotation stands at 55s. to 57s. 6d. per ton, f.o.b. East Coast, but actual business is still lacking. Some inquiry, however, is being dealt with for forward delivery.

#### Fixed Oils, etc.

THE general tone of this section keeps quite steady, and a number of items stand firm at full rates. Castor shows a further big jump, and palm is moving up again. Coconut, cotton and palm kernel are all good markets. Linseed (raw, naked) is steady, and turpentine closes easier. ACID OILS.—The market is firmer this week and prices are fully maintained: coconut and palm kernel, 41s. 6d.; groundnut, 37s. 6d.; soya, about 35s. 6d., all spot. CASTOR.—Further advances are recorded this week and the market closes very firm: pharmaceutical, 75s.; first pressings, 70s.; second pressings, 68s., in barrels, in not less than one-ton lots. French medicinal is firmer at 77s. per cwt., in cases, and 74s. in barrels, ex wharf, London. COCONUT.—The tone is firm, with prices fully held at last week's levels: deodorised, spot, 50s.; Ceylon, 44s. 6d., c.i.f.; Cochin, 58s., c.i.f. COTTON is firmer and prices are slightly higher: deodorised, 55s.;

common edible, 50s.; soap-making, 46s.; crude, 43s., all spot. GROUNDNUT.—Still but little movement here and prices are about the same: deodorised, spot, 52s.; crude Oriental, 48s., c.i.f. LINSEED (RAW, NAKED).—There is little change in values and the market closes firm. Business has been satisfactory. On spot, 41s. 9d.; July-August, 40s. 9d.; September-December, 40s. 9d.; January-April, 39s. 10½d.; Hull, on spot, 40s.; July, 40s.; August, 40s.; September-December, 40s. 3d.; January-April, 39s. 6d. PALM KERNEL.—A recovery in values, with the market closing firm is recorded: deodorised, 50s.; crude, 44s. 6d., all spot. PALM.—All grades are a shade dearer again, with the market active and closing firm; still higher rates are looked for: Lagos, 39s. 6d.; softs, 39s. 6d.; mediums, 39s. 6d.; hards, 39s. 3d.; bleached, 42s., all spot. RAPE is steady and unchanged: refined, 51s. 6d.; crude, about 48s. 6d., all spot. SOYA is dull, but values are maintained: deodorised, 52s.; crude, about 43s. 6d., all spot. TURPENTINE.—The market has fluctuated considerably, having recovered the fall experienced late last week, when spot delivery was offered down to 64s. 3d. by parties making efforts to depress prices, apparently in order to buy more cheaply. This had, however, not much effect on sentiment. Last week's deliveries were 1,882 barrels, making a total of 56,792 barrels since January 1, and the stocks were returned at 10,592 barrels, but 15,650 barrels being afloat to this side. This makes the London visible supply as much as 26,242 barrels, against 13,834 barrels a year previous. We understand that the Association of American Producers has now been actually formed, although its operations have not as yet been started. The receipts in America have been steadily taken up, apparently largely on the part of dealers. The London spot price closes at 65s. 3d., July-December at 66s., and January-April 68s. 3d. per cwt. Wood is firm at about 77s. per cwt. for Hankow, in barrels, on spot.

LUBRICATING, MINERAL AND BURNING OILS.—With the exception of white oils, which show a decline in value, products in this market are unchanged, and the market keeps steady, but business is still rather slow. BENZOL.—Market unchanged; British makers' and dealers' prices the same. Crude 65's, 10½d. to 1s.; standard motor, 1s. 4½d. to 1s. 6d.; pure, 1s. 8½d. to 1s. 10d. per gallon, ex works, in tank wagons. F.o.b. prices, including free drums, about 6d. per gallon more. FUEL OIL.—950 gravity, £4 7s. 6d.; 890 gravity, £5 7s. 6d. per ton, ex tank. Prices are unchanged with the market dull. PARAFFIN WAX AND SCALE.—The wax market keeps steady, with prices about the same, from 3½d. to 5½d. per lb., according to melting point, in bags. Scale is offering, c.i.f. U.K. ports, at about 25s. to 25s. 6d. per cwt. SOLVENT NAPHTHAS.—The market is quieter, but prices are steady: 90 to 160, 1s. 3d.; heavy, 90 to 190, about 1s. 2d. per gallon. PARAFFIN OILS.—Market holds firm at unchanged rates. American standard white, 1s. 1d.; water white, 1s. 2d. per gallon, barrels free; Russian prime white kerosene, 6½d. to 7d., ex tank; buyers' barrels filled free, 7½d.; 10½d. per gallon, barrels free, ex wharf, London. PETROLEUM JELLIES.—Some grades are a shade easier this week on a dull market: white to snow white, £64 to £69; amber and yellow, £25 to £28; red vet, about £22; dark stiff green, about £19 per ton, ex wharf, London. WHITE OILS.—All grades are at cheaper prices this week, with the market quiet: Special No. 1, £40; No. 1, £35; No. 3 half-white, £27; No. 4 half-white, £19 per ton, drums and barrels free, ex wharf, London. LUBRICATING OILS show no change on the week. The spot market is steady but not very active. Conditions for shipment are also steady to firm. On spot, pales, £14 to £27; reds, £15 to £28; dark cylinders, £17 10s. to £37; filtered cylinders, £23 15s. to £43 per ton, ex wharf, London, less 2½ per cent. Soluble oil, £29 per ton, net. No. 1 RUSSIAN OIL is steady at £19 16s. per ton, ex wharf, London, less 2½ per cent.

#### English Herb Crops

Stafford Allen & Sons, Ltd., write: The prolonged cold weather in the spring delayed most of the crops, but the heavy rains which came with the warm weather made the growth very rapid later. BELLADONNA has been quite a fair crop, as it was not affected by the late frosts so much as in previous years. The troublesome belladonna beetle has also not been so prevalent. HENBANE.—The second-year plant has given a good moderate crop, and the leaves and flowering tops have been harvested in excellent condition. ACONITE will be about normal. CHAMOMILES.—This crop was delayed by the late spring and badly needed rain. The recent heavy fall will greatly benefit the plants and bring on the flowers. DILL looks well, and there should be a good supply of seed. FOXGLOVE has also suffered from the few dry weeks we have had and will benefit by the recent rain. LAVENDER plants look well and healthy and the flower spikes are coming on



nically. We still cultivate this plant on a fairly extensive scale. English lavender oil is holding its own in spite of the cheaper French article. PEPPERMINT is another crop which has suffered through lack of rain, and the yield of oil may be somewhat below normal. On the other hand, the plants will be healthy, and harvesting will probably be early this season.

*John Jakson & Co. (Mitcham Road), Ltd.*, state that the yield of crops must largely depend on the rainfall during the next few weeks. With this proviso, PEPPERMINT, young and two-year-old, will give an excellent result; unfortunately the dry weather has had an adverse effect on the old mint, which is inclined to mature too early. LAVENDER.—There is every sign of an exceptionally good crop. CHAMOMILES.—Excellent results are expected. No marked reduction in the price of oils from these crops is expected to follow.

*Potter & Clarke, Ltd.*, report that generally all crops are good, with a remarkable absence of blight. Cool weather and seasonable rain have produced plants full of leaf without excess of stalk. A heavy crop is expected of the following: WORMWOOD, COMFREY, MARSHMALLOW, TANSY, CELANDINE, BALM and FEVERFEW. English CHAMOMILE is no longer remunerative and cultivation will be discontinued. With regard to culinary herbs, the cultivation of SAGE now exceeds the demand, unless the cost can be brought nearer the price of the foreign article. Good crops are expected of PARSLEY, SPEARMINT and LEMON-THYME.

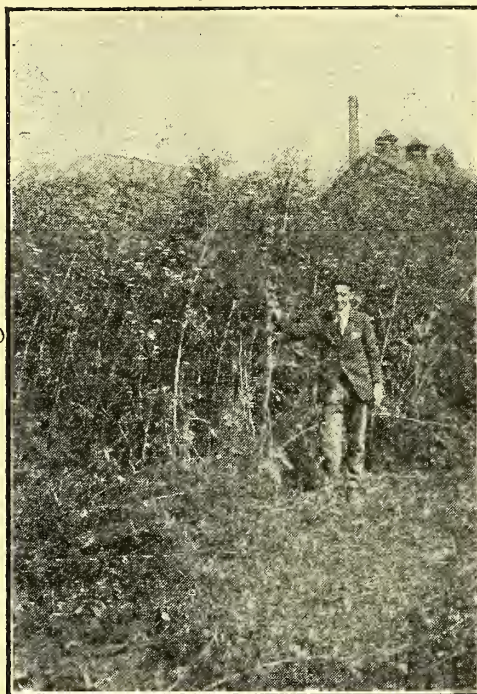
*Hollands Distillery (Essential Oils), Ltd.*, report as follows:—LAVENDER.—There is very little acreage out, and most of the flower is being bunched for market. There will be very little lavender distilled, as the demand for English oil has fallen off considerably, the high prices of the oil being against its use. PEPPERMINT.—The acreage under cultivation is practically equal to last season. Owing to the spell of wet weather during planting-out the young plants took on vigorous growth, but at the same time the weeds took hold as well, with a consequence that cleaning was a difficult proceeding. Unfortunately, the cost of keeping the herb clean has been a factor unforeseen, and will have a marked influence on the cost of production. We anticipated a drop in price this year, but cannot now definitely say that this will materialise. Growers are getting disappointed with the outlook, and even if we get good harvesting weather we are afraid the weeds have had their ill-effect, and the quantity of herb distilled will not be up to expectations. Under the circumstances, therefore, prices are expected to be maintained, and we cannot see less than 50s. per lb. being fixed as the figure for genuine Mitcham peppermint.

*Joseph Seymour, Holbeach*, writing with regard to DILL, states that the plant is not fully developed, but good seed is expected. PEPPERMINT is doing well, the rain having come just in time, and looks like making average crop. POPPIES are not so good as usual.

*W. J. Bush & Co., Ltd.*, report as follows:—PEPPERMINT.—The crops generally are thin, and the leaves at the bottom were beginning to dry up and fall off, but it is probable that the recent opportune rains may have a beneficial effect upon the crops generally. The quantity of peppermint under cultivation is much the same as last year (about 80 acres). On the whole, we should say the prospects are favourable for a good yield of oil. LAVENDER.—There is now a very small acreage of lavender around Mitcham, and we understand practically half of the crop will be bunched for the market. The quantity of oil, therefore, will be very small, but generally the crop may be considered good. CHAMOMILES.—We have not yet met any farmers who are growing this plant around Mitcham.

*William Ransom & Son, Ltd.*, write:—The weather conditions since the close of last season have been exceptionally adverse, and many crops have suffered disaster or even extinction. On the whole, therefore, the state of the crops is below average for quantity, although in most cases well up to standard for quality. BELLADONNA.—The continued wet weather and ground frosts of the winter months seriously reduced the crop, although several tons of hand-picked leaf were gathered in prime condition. The plants or half a dozen acres have died off owing to the root-rot started by winter frosts and floods, and will be a complete loss. HENBANE.—The crop of second-year herb was very disappointing. Although the first-year crop has been under water on more than one occasion, the prospects for an average cut of leaf seem fairly good. LAVENDER.—The plants look well and healthy, and carry a good weight of flower stems. If the warm weather of the last few weeks continues, the flowers would yield a nice quantity of prime quality oil when distilled. PEPPERMINT.—Peppermint was also a victim of the sudden condition of the ground, and the continued low temperatures of the long winter.

Exposed beds are somewhat thinner than at this time last year, but beds on lighter ground carry a very nice crop, which should yield some good oil. CHAMOMILES.—We have again increased our acreage, and should be in a position to offer rather more oil this year than of late. ROSEMARY.—The plants look well, and should give an average yield of



A PORTION OF HEMLOCK CROP

oil, the quality of which should be good. SQUIRTING CUCUMBERS.—The condition of the ground during the winter was responsible for a number of gaps in the beds, but in the last few weeks the plants have grown well, and show an abundance of bloom. The amount of elaterium available should be not less than heretofore.—WHITE POPPIES.—Several sowings came to grief; the warm weather which followed immediately on the excessive rains of May and June, seemed to stunt growth, and the capsules are expected to be below the average for size. ACONITE.—The plants look well, and there should be some good root available this winter. HEMLOCK.—We have cut a nice crop of this herb, many of the stems attaining a height of 12 feet, and averaging quite ten feet over the whole piece.

### Cascara Sagrada Output

CASCARA sagrada is now quoted on the Pacific coast at from 11c. lb. up to 13c. lb. in car lots as to seller. The lower figure (says the New York "Drug and Chemical Markets," July 16) is doubted by some factors, who say that they have been unable to confirm the quotation. However, those offering at the low figure seem anxious to sell. High prices stimulate production, and the more bark gathered, the sharper becomes the competition between holders. The gathering season is practically over now, and from several sources, the total amount produced is said to be around 2,000 tons. Even with the present low price of 11c. lb., coast in car lots, some dealers, who are buyers of three to four carloads a year, have not yet covered themselves, and they say they are not anxious to do so, until the bark goes down still further. If holders sell around 11c. lb. coast, they are still making a large profit, according to a leading cascara man, who says that the present bark costs between 8c. and 9c. per lb., and with the cheaper labour near the end of the season, the bark ought not to cost more than 7½c. lb. The spot (New York) situation is gradually adjusting itself to the cheaper new bark, which was first offered last week on spot at 27c. lb., but is now available at 18c. lb. A resumption of buying will naturally cause a stiffening in prices on the coast. But on the other hand, if buyers still adhere to their former policy to keep out of the market, the holders on the coast may become panicky and ask for bids on their stocks.





Letters for this section should be written on one side of the paper only. Correspondents may adopt an assumed name for purposes of publication, but must in all cases furnish their real name and address to the Editor.

### The Profit Squeeze

SIR,—“Fair Profit” only endorses the criticisms that from time to time have appeared from subscribers. There can be no doubt that the policy of the Proprietary Articles Trade Association needs readjustment. As matters stand at present there is a great deal of dissatisfaction, mainly because they are trying to ride three horses. The P.A.T.A. subscription list should be confined solely to proprietors, and only those who guarantee 25 per cent. profit to retailers. The wholesaler and retailer should not be included as subscribers. On page 36 of P.A.T.A. “Year Book,” 1924, it reads: “(3) That the wholesale houses are all acting in conjunction with this Association,” etc. This is not correct, and if the Association were as effective as they say they are two or three of the wholesalers would have their fingers rapped. By opening up the subscription list to the latter it places the earnest supporters in a difficult position. Should they take steps to advocate the removal of another wholesaler from the P.A.T.A. they might be accused of trying to direct the trade of the offenders to increase their own business. Rather than be subject to criticism, they keep silent. Apart from the “matter of arrangement” referred to by “Fair Profit,” many of the wholesale houses make a practice of allowing 2½ per cent. discount on articles that should be strictly net. Their argument is that if the articles were to be tabulated in invoicing it would add to the cost of working expenses, and is therefore cheaper to allow the discount on the total. Although this is an advantage to the retailer, it is in direct opposition to the policy of the P.A.T.A., for it is simply price cutting to attract more custom. While the wholesalers are also subscribers the hands of the manufacturers are tied. Also, in my opinion, it is not fair to the retailer to ask him to subscribe. On page 37 of the “Year Book” there appears an article dealing with substitution. It states that: “Where a proprietor has added his article to the P.A.T.A. he recognises the retailer's right to a profit, etc. . . . Common fairness dictates that when his (the proprietor's) article is asked for it should be handed over the counter without any attempt to sell anything in its place.” This, to my mind, is expecting too much, and if carried out strictly to the letter, what constitutes fair substitution, and incidentally good competition, which is the spice of business life? It is safe to assume that proprietors are, at all times, willing to meet fair competition, and naturally constructs his selling propaganda with the idea of meeting it. But, apart from this advice to the retailer, the P.A.T.A. only recommends 25 per cent. profit, but does not insist. The Association has its private inquiry agents everywhere, whose business it is to see that the retailer does not commit a breach of the rules. What happens if a retailer commences price cutting, and is a good customer of the wholesaler, who is a subscriber? Does the wholesaler, who is allowing discount on net prices, stop the supplies, or does he use Nelson's blind eye until the inquiry agents report to headquarters? It is surprising how long it takes to get the machinery in motion. It may be argued that the retailer wants the benefit without paying for it, but I take it as a consensus of opinion that the Association is purely a matter for the proprietors. If the membership was solely confined to the latter all offenders could then be handled with the gloves off, without fear or favour. This would ensure satisfaction to all concerned, and possibly quieten the suspicions as to whether or not the P.A.T.A. is effective under modern conditions of business.

Faithfully yours,  
C. DENBY DAY (14/7).

### Pyridinised Methylated Spirit

SIR,—A further example of the trouble caused by the presence of crude pyridine now present in methylated spirit is furnished by the incompatibility of pyridine with corrosive sublimate. A solution of this salt in s.v.m., often recommended for treating woodwork infested by beetles or dry rot, was formerly prepared without difficulty. Now, however, although a solution of any suitable strength may be obtained, an insoluble residue remains (soluble on warming, but re-deposited on cooling), owing to the formation of a compound of the salt with pyridine, and there is therefore considerable waste. Compounds of pyridine and corrosive sublimate are, of course, known; and while as yet it is uncertain which is formed in this case, the subject is being investigated.—Yours truly,

E. SMELT,  
Evans, Gadd & Co., Ltd.

97-100 Fore Street, Exeter.

### Counter Sales at Wembley

SIR,—I see that Hull pharmacists are attributing the present depression in retail trade, among other causes, to “taking the kiddies to Wembley” (*C. & D.*, July 26, p. 114). I have heard many other traders say that Wembley has a lot to do with it, not only from the expense of going there, but also from the commodities sold there. There are stands for the sale of nearly every conceivable article; they seem to be very well patronised, and as there are about 100,000 visitors to the Exhibition daily the stallholders' takings must represent a turnover which would make the ordinary retailer's mouth water. Moreover, when the ordinary man in the street is out for a day's amusement, he gets a spending fit on, and buys things freely which he might see any day in his local shop windows without ever purchasing them; and, having bought them at Wembley, he is not likely to buy them at home. The day I went there the crowds at the perfumery stands were three or four deep, and I wondered how many of my customers had spent their money there, and how long it would be before I turned this year's stock over in consequence.—Yours truly,

WEMBLIGHT (26/7).

### A Proprietor's Salary

SIR,—The paragraph “Accountancy-Salaries” in your Compendium, and some remarks of “Xrayser II” in your issue of June 28 (p. 903), give further prominence to the fact that in the estimation of the profits of a business the proprietor's salary should be taken into account. Looking at the advertisements for businesses for disposal it is very often obvious that this is not done—and, in fact, if the proprietor were to pay himself a salary, say, of only £4 a week, the profits in some cases would disappear entirely; so that, when purchasing a business, would-be proprietors should insist on figures showing the net profit after a salary, at least equivalent to that of a qualified manager, has been charged. I am well aware that the income-tax authorities do not allow this sum as an expense in the case of a sole proprietor; a reform in this matter is urgently needed.

Truly yours, PROPRIÉTAIRE (14/7).

### Goods on Sale or Return

SIR,—Allow me to congratulate you on again doing the trade a good turn (*C. & D.*, July 12, p. 64). Your correspondent, “F. H. R.” (*C. & D.*, July 19, p. 108) appears a bit foggy. How can the mere fact of ordering a parcel remove it from the obscene class? The best way to deal with the firm under discussion was revealed to me some months ago by a chemist friend. His parcel contained a cheap enema, hot-water bottle, etc., of foreign origin, and he wrote to the firm saying he would accept no liability for it, and asked for the sum of 2s. for the purpose of returning goods, which was forwarded by return. Another friend received a parcel before Christmas, value 13s. odd, but put it on one side and forgot it. During March he got a County Court summons, and to avoid trouble he paid up.

Yours truly,  
ROADSTER (21/7).



SIR,—Your correspondents, "Exchange" and "F. H. R.," may be glad to learn that I have an assurance that this matter is being dealt with by the highest authorities, and that there is every probability of the activities of this Merthyr gentleman being curbed in the near future.—Yours, etc.,  
X. Y. Z. (23/7).

### What is Lysol?

SIR,—The lysol question is rapidly becoming acute. Oil shops and stores are displaying and selling a so-called "Lysol," which obviously can only contain a very small percentage of cresol, as it is not labelled "Poison" and does not come under the Pharmacy Act. Customers repeatedly refuse to purchase lysol from the chemist on the ground that they can buy the same size elsewhere for less, and it is useless to attempt to explain to the average person the percentage composition or the reason why this article is sold cheaper at domestic stores. By making lysol an official product with a standard formula it would come under the Pharmacy Act.

Faithfully yours,  
LYSOLITE (15/7).

### Legal Queries

G. A. B. (15/7).—The use of your name in the possessive case on the label of a medicine would make the mixture liable to medicine-stamp duty.

Alex (15/7).—A chemist can run a business under an assumed name, but he must also register his own name under the Registration of Business Names Act. The manager carrying on the business would require to exhibit his certificate of qualification in the shop.

E. W. (18/7).—The title "Nasal Catarrh Tablets" is a dutiable one. We are unable to find a formula corresponding to that you use, but it can be registered as a "known, admitted and approved" remedy in *The Chemist and Druggist Diary*, 1925.

W. E. D. (18/7).—An unqualified person cannot legally carry on the business of a chemist and druggist, even if he employs a qualified chemist to manage the business. A person whose name is not on the Register of Chemists and Druggists cannot use the title "—'s Cash Chemists" without infringing the Pharmacy Acts.

A. A. (23/7).—The Home Office opinion is that if a preparation which is exempted by the Dangerous Drugs Act Regulations is mixed with other ingredients it is no longer exempt. However preposterous such an opinion may be to a chemist, it is advisable to put up with the injustice until a test case has decided the matter.

W. A. H. (17/7).—It is probable that the sale of lysol containing less than 50 per cent. of cresols is an infringement of the Merchandise Marks Act, but so far no case has been brought into court. The product made under the lysol patent (expired) was a 50 per cent. solution, and when the trade-mark "lysol" was avoided during the war it was this article that was referred to in the proceedings.

M. & Co. (22/24).—The disclosure of the composition of the cod-liver oil emulsion on the label as given in your letter would be sufficient if it were stated in English, but with the use of your name in the possessive case any advantage gained in converting the article into a "known, admitted and approved" remedy would be neutralised. Your letter, however, is not quite clear, as if the article is not to be recommended for allments it may not be liable to medicine-stamp duty.

B. B. (2/7).—Before the recent Budget was introduced a firm entered into a contract to supply certain articles. The duty upon one of the ingredients used in the manufacture of the article has been reduced. Is the firm bound to make a corresponding reduction in the price of the finished article? The contract makes no provision for this. [The firm is under no legal obligation to reduce the price of the finished article merely because the Excise or Customs duty upon one of the ingredients has been reduced.]

G. J. B. (25/7).—The next opportunity for registering "known, admitted and approved" remedies will be in the *C. & D. Diary*, 1925. Formula numbers will appear when the recipes are published. The effect of registering would, however, be neutralised by the claim you make of being "sole maker and proprietor"; you could say, "prepared and guaranteed by," as this does not constitute a claim to proprietary rights. The title, "Liver and Stomach Mixture," is not one that would *per se* make a preparation liable to medicine-stamp duty.

Vivians (15/7).—The use of the title "Korn-i-Kuro" on a corn remedy would, we think, be regarded by the Board of Customs and Excise as a claim that the article to which it was given was claimed to be a cure of corns, as it is doubtless intended to be by those who use the label. The exemption in regard to "known, admitted and approved" remedies applies to chemists and a few other persons who can show that they have served an indentured apprenticeship in the drug trade. Hairdressers as such cannot legally sell "known, admitted and approved" remedies unstamped.

C. W. O. D. (17/7).—(1) Persons who pass the examination of the Apothecaries' Society as assistants to apothecaries are not qualified to act as chemists and druggists, although some were admitted without examination to the Register of Chemists and Druggists in conformity with the Poisons and Pharmacy Act, 1908. (2) Persons carrying on business in other than their own name must register under the Registration of Business Names Act. (3) Details as to the examination required for the diploma of pharmaceutical chemist will be given in the Educational Number, to be published on August 16. Candidates must pass the Qualifying examination first.

Doubtful (15/7).—The Pharmacy Act, 1868, Section 16, provides "that upon the decease of any pharmaceutical chemist or chemist and druggist actually in business at the time of his death, it shall be lawful for any executor, administrator, or trustee of the estate of such pharmaceutical chemist or chemist and druggist to continue such business if and so long only as such business shall be *bona fide* conducted by a duly qualified assistant." The Poisons and Pharmacy Act, 1908, requires that the assistant's certificate of qualification shall be exhibited in the shop. As you will see, the terms of the section are sufficiently wide to cover the points about which you ask advice.

A. E. D. (17/7) asks what is the minimum wage the receipt of which makes an employee liable to be insured under the National Insurance schemes. Also whether a dispenser earning £5 a week must be insured under the National Health or the Unemployment Insurance schemes? [Subject to a few exceptions, all employees must be insured under the National Health and Unemployment Insurance schemes, however small their wages may be. In fact, an employee must be insured, even if he does not receive any wages at all, unless he is an apprentice or is the child of or maintained by his employer. As the rate of remuneration exceeds £250 a year, the dispenser is not insurable under either scheme.]

T. H. H. J. (14/7) has been employed for the past two or three years at a salary of £250 a year; but as he has been unemployed during part of each year he has never received £250 in any one year. Could he and his employer be made to pay National Health and Unemployment Insurance contributions in respect of him for the periods during which he was so employed? [An employee whose work is not manual labour is exempt from liability to insurance if his salary is at a rate exceeding £250 a year. He need not actually receive over £250 in any one year; but his remuneration while he is employed must be at a rate which would in a full year produce over £250. As, however, "T. H. H. J." was paid at the rate of £250, and not in excess of that figure, he was liable to be insured. In the circumstances, the arrears of contributions in respect of the periods during which "T. H. H. J." was employed could be collected from his employer.]



## Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

**I. B. L. (19/4).—SPRAY LIQUID.**—This is a preparation which when used with an ordinary garden spray or atomizer is stated quickly to destroy all flies and mosquitoes that may be in a room, and to be quite harmless to human beings. The liquid appears to be merely petrol containing a little methyl salicylate, nutmeg oil, and possibly some other essence to give it character. The sp. gr. is about 0.77, it boils at about 138° C., and leaves no residue on evaporation.

**Dog (5/6).—DISTEMPER CURE.**—This is a white creamy suspension of a bismuth compound, which appears to be bismuth hydroxide, a considerable quantity of gum being used to aid suspension. A little alcohol is present, as shown by the sp. gr., which is just unity, and chemical test. The taste is somewhat bitter, recalling a very small amount of nux vomica, but this taste may be due to some other tincture in larger quantity. The odour is aromatic, apparently due to rose and orange blossom waters.

**Spiro (13/6).—TOFFEE POWDER.**—This powder, which is used to put into toffee to prevent it candying, contains about 25 per cent. of cream of tartar and 75 per cent. of icing sugar, and apparently nothing else.

**W. I. (23/6).—OINTMENT FOR BAD LEGS.**—This ointment, "used with much success for bad legs arising from varicose vein troubles," appears to be nothing but benzoated zinc ointment coloured with a dye of the methyl orange class, although not ordinary methyl orange. Various tests failed to reveal the presence of any additional medicament.

**A. J. S. (23/6).—LAXATIVE TEA.**—The following is a formula of the class you desire:—

Cumin and coriander seeds	...	1 oz.
Soapwort leaves	...	1 oz.
Triticum repens	...	12 oz.
Senna leaves	...	25 oz.

The seeds are crushed and the other ingredients cut up finely before mixing. The dose is the infusion from one to two tablespoonfuls of the tea.

**P. R. (1/7).—(1) SYRUP OF BLACK CURRANT** is best made by crushing the fruit and placing in a stoneware vessel with three-fourths of its weight of granulated sugar and well mixing. After standing overnight bring the syrup to the boil and strain. In place of the fruit, black currant jam may be used for making a syrup, one part each of water and jam being mixed, filtered, and one part of sugar dissolved in the liquid. (2) The baths at Bath fell into decay after the Roman occupation of Britain ceased, the removal of the civilising and controlling Roman agency bringing about a relapse from which England only recovered gradually. The restoration of the baths took place within comparatively recent times.

**J. F. (1/7).—CHEMICAL TREES.**—The following are the methods of making these:—*Silver tree*: Silver nitrate 5j., mercury 3j. Dissolve the silver nitrate in distilled water 5 oz. and place in a glass jar, then add the mercury. *Tin tree*: Muriate of tin 3ij., nitric and m.x., and a piece of zinc attached to copper wire. Into a 4-oz. bottl three-parts full of water add the muriate of tin and the nitric acid and shake until dissolved. Then attach the zinc to the inner side of the cork. *Lead tree*: Lead acetate 3ij., dissolve in 4 oz. of distilled water and suspend a piece of zinc in it attached to a copper wire. Another form of chemical landscape is made by adding a few lumps of ammonium chloride to a solution of lead nitrate 2 oz., nitric acid ½ oz., in distilled water 6 oz.

**Curious (9/7).—LIMNANTHES DOUGLASHI, R. BR.**—This is the name of the plant sent for identification. As its name implies, it is a marsh plant. It was discovered in California by Douglas and introduced into gardens in this country so long ago as 1833. It is a hardy annual, having a spreading habit, with numerous

flowers, and lasting through the summer, forms pretty patches when grown in suitable soil. The flowers are sweet-scented, and attractive to bees. The seeds can be sown in March for summer flowering, and in September for spring flowering. From a botanical point of view it is a little abnormal, as it illustrates the difficulty, which sometimes occurs in placing a plant in the right family, and has led to systematic botanists being divided into two groups, irreverently known as "lumpers" and "splitters," the "lumpers" putting doubtful plants under one of the larger natural orders as a variant, or, as Mr. J. G. Baker used to say, "It belongs to (in this case) *Geraniaceae* in a large sense," the difficulty about this definition being that there is practically only one character visible to the amateur botanist that would suggest that it belongs to that order. It is placed under *Geraniaceae* by Bentham and Hooker; by Lindley it was placed in *Tropaeolaceae*, the nasturtium order; and by J. R. Green in a special order, *Limnanthaceae*. This is the position of the "splitters," and of course this method has the disadvantage that it increases the number of natural orders so greatly. The leading feature that would give a clue to the *Geraniaceae* is that there are five separate carpels, with the style divided at the apex into five stigmas. With the *Tropaeolaceae* it agrees in the convolute aestivation of the petals, the absence of definite stipules, but differs in the flowers being regular in shape. The pinnate leaves recall *Erodium* in the *Geraniaceae*, but differ in being quite hairless. It would be as puzzling a plant for a botanical student to run down as is *Chimonanthus fragrans*, which on one occasion was given at a competitive examination in which the writer was one of the competitors. One must accept the authority of the Index Kewensis and say that *Limnanthes Douglasii* belongs to (one of the sections or sub-families of) *Geraniaceae*. The plant was first described by Robert Brown in the "London and Edinburgh Philosophical Magazine."

**J. T. (12/7).**—The use of chloroform in the manner you suggest is the best preservative for the mixture of vegetable drugs to which you refer.

## Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," August 15, 1874

Thomas Bennett Groves, F.C.S.

President of the British Pharmaceutical Conference,  
London, 1874

The excellent pharmacist who holds this year the presidential chair is the son of Richard Groves, who was the youngest of a family of nineteen. They came from Minterne Magna, in the county of Dorset, and for several generations had been there settled as extensive agriculturists. They farmed the Digby Home Farm, together with some landed property of their own. His father was apprenticed at Sherborne, and commenced business in 1829 at Weymouth. He was a chemist and druggist of the good old school; a man of considerable natural ability, and strictly honourable in all the relations of life. His scrupulous integrity led to a circumstance we have often heard related by the late Jacob Bell. We give it in his own words:—"One day at the examination, up comes young Groves to pass his Minor; and I do believe that Diogenes might have dropped his lantern, for had he come across the father he would have found out an honest man. I showed his son a piece of East Indian rhubarb, and he said it certainly was not Turkey, and that was the only kind he had ever seen. There is, it seems, one honest pharmacist in England."

Thomas Bennett Groves was born in Weymouth, July 12, 1829. We have read of legal families, every member of which has been connected with the law, and cases are not unfrequent of hereditary churchmen; but the entire ramifications of the Groves' household appear to have been attached to physic. Father and son have cultivated pharmacy; an only sister married a pharmacist, himself of pharmaceutical parentage; whilst the younger brother, Henry Groves, who resides in Florence, is not unknown to fame, whether as a chemist or a botanist.

[The C. & D. published a Special Issue containing the report of the Conference.]





[Commenced C. & D., July 5, 1924]

**Advertisements, Illustrating.**—It has been stated as the result of experience that the pulling power of the illustrated advertisement is five times as great as that of one without illustrations. Whether this is true or not, it is a fact that many papers charge extra to insert blocks, and advertisers willingly pay more. For many purposes stock blocks can be obtained on loan from manufacturers or purchased at small cost from block-makers. The type of block required depends upon the quality of paper used. On coarse paper employed in newspaper printing line blocks or coarse-screen half-tone blocks give the best results, while for highly polished art papers a fine-screen half-tone block is used.

**Advertisements, Rating of.**—If land not otherwise occupied is used for exhibiting advertisements, the person who allows the land to be so used by the advertising contractor or, if he cannot be found, the owner of the land is rateable therefor. If land is also occupied for other purposes the same person is rated for the whole value of the land including the advertising station. In this way advertisements displayed on the sides of houses are rated.

**Advertising.**—In an article entitled "Business-building for Chemists," written by Mr. Thomas Russell for *The Chemist and Druggist Diary*, 1909, advertising was defined as "the art of telling the truth effectively"—an acute if partial definition. World-famous houses have elaborate systems of advertising; and the retailer, for whom this monograph is mainly written, may wonder to what extent the principles successfully applied by them can be adapted to smaller businesses. It is worth remembering, at the outset, that common sense is one of the greatest assets of the advertiser. This truism may be expanded by the remark that it is not always either feasible or necessary for the advertiser to submerge himself in a flood of disquisition on psychology. (The masculine gender is used throughout this section for the sake of conciseness, although it is common knowledge that advertising is not exclusively carried on by men.) Another asset is the pharmacist's qualification, which even in advertising can be tactfully made to tell. It is, or should be, self-evident that the advertiser, large or small, cannot afford to make serious mistakes, and that he should have a definite plan in advertising. With these axioms (virtually different aspects of the same truth) borne in mind, the subject may be considered in a practical way.

**CHOICE OF METHODS.**—(1) *Planning a Campaign.*—Without any attempt at dogmatizing, it may be put forward as a working rule that one thing at a time should be pushed, that one thing to be an article exclusive to the seller and within the range of his buying skill and capacity, his display space in the shop, and so forth. This rule may present a secondary problem to the man whose business is developing more rapidly than his capital, and may influence the choice of goods to be advertised. If a seasonal article is selected, the principal time for advertising it is at the beginning of its season. It pays to think out possible uses of goods not yet pushed; and it is equally the part of wisdom to study in the main the largest groups of customers, actual or prospective. Once the campaign is launched, the window and the counter should display the goods in question. As to the limit of expenditure, it has been estimated that in a necessities trade 2 per cent. of turnover may be reached; but, whatever figure is selected, a reserve fund should be created for special efforts called forth by events, such as an annual flower show, which may bring more people than usual within range.

(2) *Newspaper Advertising.*—Where a good local newspaper exists, it will, if properly used, be found the quickest and cheapest advertising medium. Chemists who have access to the *Diary* article referred to in the preceding paragraph may profitably read the examples of successful Press advertising on a small scale that it contains. The choice of journal is important. It would not, e.g., be advisable for a chemist in Balham or Bethnal Green to spend money in the big London morning or evening papers unless he was out for postal business, because they circulate so far from his field of operations that he would be paying for waste circulation. This applies in provincial centres also.

(3) *Circular Advertising.* even though somewhat overdone, can still be made effective by originality, both in the production of the circular and in the method of distribution. Unless distributed by someone in whom the advertiser has complete trust, it is better and cheaper to use the halfpenny post.

(4) *Sales Letters.* sent out monthly or bi-monthly to a selected list of names, are a popular form of advertising to-day.

(5) *Enclosure Slips* form an effective link between chemist and customer. Sent out with letters, parcels and other packages, they go to the home and "get there" when other advertisements miss the mark.

(6) *Window-dressing* can, by careful thought and attention to detail, be made a very effective form of advertisement. (See Window-dressing.)

(7) *Samples* (sometimes and perhaps preferably called miniatures), judiciously circulated, afford a quick method for marketing a new line. Although costly, the ratio of ascertained results to cost indicates that this is really a cheap form of advertising.

(8) *Moving Objects.*—The attractiveness of mechanical devices that move or flash needs no demonstration. The pitfalls are vulgarity and breach of some local by-law.

(9) *Frequency of Change* is a matter for the application of ordinary business intelligence.

(10) *Personality* (in which term may be included the appearance of the pharmacy, its staff and appliances, from the proprietor or proprietors to the errand boy and his shop tricycle) may be made a form of advertisement.

**DRAWING UP ADVERTISEMENTS.**—The successful advertisement writer first studies the article to be advertised, a detail enlarged upon in the previous paragraph. He then plans his lay-out, with attention to the following points:—

(1) *The Border.*—Heavy, ugly borders should be avoided; a liberal use of white space is more effective.

(2) *The Headline.*—This should usually consist of not more than four or five words, and should not be in violent contrast to the general tone of the advertisement itself.

(3) *The Introduction.*—This should create interest in advance.

(4) *The Goods.*—A boldly printed designation.

(5) *Description and Selling Points.*—To stimulate desire and produce inquiry without overcrowding the available space.

(6) *Price.*—Many advertisers err by omitting the price.

(7) *Name and Address.*—This is not so important in relation to the other contents as many advertisers seem to think, and little space should be given to it.

In some cases an illustration may take the place of the headline; and in any case illustrations may be used with telling effect wherever possible. A cardinal point in all advertising is to realise—by thinking the matter out, if not gifted with a natural talent in this direction—what the customer wants, or may believe he wants, to buy. No average customer is interested in the seller's point of view—the technical excellence of his products, their provenance, and a hundred such details; but the customer is interested in the value, comfort, security and anything else he expects to get out of what he buys. Advertisements should normally be simple and to the point; it is quite easy for printed appeals to break down ignominiously through the weight and complexity of their contents. Humour is so delicate a weapon in the advertiser's hands that something like genius is





## The C.&D. Commercial Compendium



needed to make it effective. A fresh advertisement at frequent intervals (say, weekly), with clear business thought energising it, is to be recommended; and if there is nothing new to be said about the goods themselves, there is always something fresh to be advanced concerning the reasons for offering them. A "reason why" may sell more goods than a cut in price without it. A study of newspapers in which advertisements similar to one's own appear is of use in so far as it gives an idea of what other traders (not necessarily competitors) are doing; in some cases, however, it may be wise to examine them after rather than before drawing up an advertisement. (See also Circulars; Handbills; Printers' Proofs, Correcting; Sales Letters; Showcards; Situation, Applying for.)

**Advertising in Almanacs.**—Almanacs, such as the year-books and medical guides published by various patent-medicine firms, are popular among the working classes and country people. They are usually kept and referred to throughout the year, hence their advertising value. Owing to the initial cost of production, however, few chemists produce such a work of their own, but usually distribute one supplied by manufacturers bearing the chemist's name and address. There are several firms who specialise in this class of printing, and are prepared to supply stock almanacs with a few pages added bearing the chemist's own advertisements. The wall calendar is an effective means of making the chemist's name a household word; but this form of advertising is becoming overdone.

**Advertising by Dentists.**—The Dental Board of the United Kingdom, set up under the Dentists Act, 1921, gave a ruling in the early part of the present year on the question of the limits of advertising permissible to persons or limited companies carrying on a dental practice. This authoritative pronouncement was given in full in the *C. & D.*, I, 1924, p. 402, and is now repeated with slight compression:—

(1) The Board view with disapproval the use or exhibition of any sign, other than a sign which in its character, position, size, and wording is merely such as may reasonably be required to indicate to persons seeking them the exact location of, and entrance to, the premises at which the dental practice is carried on. This resolution covers the use of large letters or notice boards; of such words as "Teeth" and "Painless Extractions"; of showcases; of large lighted signs, especially if of an intermittent nature; and the display of numerous exhibits or plates setting forth a practitioner's name and/or profession. *Any advertising for the purpose of procuring patients renders a practitioner liable to be summoned to appear before the Board.*

(2) The publication of any announcement for the purpose of informing a dentist's patients of his change of address, or the days upon which he will make his periodical visits to any particular town or place, may be regarded as an advertisement for the purpose of procuring patients, if it includes the word "Dentist" or any other description, statement, word, initial, engraving or other matter indicating his profession.

(3) The issue of circulars giving information as to a change of professional address or hours of attendance may be regarded as an advertisement for the purposes of procuring patients if not sent under cover, or if sent to persons who have not been *bonâ-fide* patients.

The Board has also called attention, on more than one occasion, to Section 4 of the 1921 Act, which provides that a registered person shall not use any title or description suggesting the possession of a qualification not indicated in the Dentists' Register. Dentists have already had to appear before the Board for contraventions of its rules, and practitioners must now be expected to be aware of the Board's attitude to anything in the nature of unprofessional conduct.

**Advertising Expenses.**—These should be charged to the advertising account; but whereas the full benefits accruing from advertising may not mature immediately, it is necessary in considering current profits or losses to capitalise a part of the total amount spent as deferred revenue expenditure, i.e., carry it forward to following period. The inspector of taxes will more often than not request particulars of the nature of the advertising, with a view of disallowing the whole to be charged as expenses at one operation for taxation purposes.

**Advertising Through the Post.**—The Post Office opens up an unlimited field for the enterprising chemist. By its aid he can, within twenty-four hours, send a message directly into the homes of as many people as he desires. Postal advertising schemes involve consideration of the following points in addition to those given (p. 211) under "Planning a Campaign" and "Drawing up Advertisements": Whom to send to; how to obtain and register names and addresses; times of sending; how to follow up replies and deal with orders (see Advertisement Records). Care should be taken that cumulative effect is obtained by making every article sold carry an advertisement for something else. All possible may be done to make ordering easy—order-forms and addressed-envelopes supplied, with full instructions for filling in the former. A study of the Post Office Guide will reveal much useful information as to what can and cannot be done through the post. Experienced advertisers declare without hesitation that profits are earned mostly from repeat orders: it may almost be laid down that the second order, like an author's second novel, is the real test which gains or loses a customer.

**Advice.**—Information or instructions on business matters relating to the forwarding of goods. A merchant drawing a bill on another will send a "letter of advice," giving all necessary particulars. Unless advice is sent on a bill presented, it may be dishonoured for want of advice.

**Advice, Traveller's.**—A note indicating the intention of commercial travellers to call on a customer either for orders or collecting of accounts, or both.

**Aerated Waters: Hours of Sale.**—The only restriction as to hours upon the sale of aerated waters is that provided for in the Shops Acts and the closing orders made under these Acts. These Acts and orders apply to the sale of aerated waters other than sales for consumption on the premises where sold. When the waters are sold for consumption on the premises the Acts and orders do not apply, and sales may take place at any hour.

**Aerated Waters Trades Boards.**—By an Order dated March 11, 1919 (S. R. & O., 1919, No. 355), the Minister of Labour applied the Trades Boards Acts, 1909 and 1918, to the aerated waters trade, which was defined as the manufacture, wherever carried on, of mineral or aerated waters, non-alcoholic cordials, flavoured syrups, unfermented sweet drinks, and other similar beverages, and the manufacture in unlicensed premises of brewed liquors, including (a) the operations of bottle washing, bottling and filling, and all other operations preparatory to the sale of any of the aforesaid liquors in bottles, jars, syphons, casks or other similar receptacles; and including also (b) the operations of bottle washing, bottling and filling, and all subsidiary operations preparatory to the sale in bottles, jars or other similar receptacles of cider, ale, stout, porter and other alcoholic beers, where all or any of such last-mentioned operations are, or is, conducted or carried on in association with or in conjunction with all or any of the operations specified under (a) above so as to form a common or interchangeable form of employment for workers, and whether the two sets of operations or any of them are, or is, carried on simultaneously or not. In 1920 trade boards were established for the aerated waters trade in England and Wales (S. R. & O., 1920, No. 136); Scotland (S. R. & O., 1920, No. 137/84); and Ireland (S. R. & O., 1920, No. 302). (See also Trade Boards.)



**GUARANTEED (LIKE "CONDY'S FLUID") NOT TO CONTAIN  
PERMANGANATE OF POTASH (POISON).**

CONDY & MITCHELL, Ltd., will take Legal Pro-  
ceedings against anyone supplying Permanganate  
of Potash Crystals as and for "Condy's Crystals."

# "Condy's Crystals"

"Condy's Crystals" are put up in bottles to  
Retail at 1/6 each (P.A.T.A.) and are stocked  
by all the leading Wholesale Houses.

*Proprietors :*

**CONDY & MITCHELL, LTD.,**

Condy's Fluid Works, 65 Goswell Road, LONDON, E.C.1.

JAPANESE



# QUININE

## SALTS

**B.P. 1914**

Manufactured by

**HOSHI PHARMACEUTICAL CO., Ltd., TOKYO, JAPAN.**

**STOCKS IN LONDON**

AT COMPETITIVE PRICES FROM SOLE AGENTS

**RALPH L. FULLER & CO., LIMITED,**

Phone: Royal 1677-1678.

21 Harp Lane, London, E.C.3.

Wires: "Ralfuller, London."



# HARRINGTON BROS. LTD.,

MANUFACTURING CHEMISTS.

FINE CHEMICALS for Scientific purposes and for College & Technical Institute Laboratories.

PHARMACEUTICAL CHEMICALS of Standard Quality for Manufacturing and Dispensing.

MINERAL and GEOLOGICAL SPECIMENS and SETS.

RADIUM and RADIO-ACTIVE MINERALS.

PHOTOGRAPHIC CHEMICALS in bulk or ready packed for retailing.

TECHNICAL CHEMICALS for Glass, China, Enamel, Varnish, and other manufacturing purposes.

AGRICULTURAL CHEMICALS Fertilizers, etc.

CONTRACTORS TO H.M. GOVERNMENT.

*Price List sent free on application.*

4 OLIVER'S YARD, CITY ROAD, LONDON, E.C.1.

Telephone Nos.: Clerkenwell 1007 & 1008.

Telegraphic Address: "SICCATIVE LONDON."

BRITISH EMPIRE EXHIBITION—Stand A37

## PITUITARY FLUID

(DUNCAN)

Supplied in 1 cub. cent. and  $\frac{1}{2}$  cub. cent. Ampoules.

Also in 1 oz. and  $\frac{1}{2}$  oz. Bottles.

DUNCAN'S PITUITARY FLUID is physiologically tested and standardised, and is guaranteed to be highly active and reliable.

Pituitary Fluid (Duncan) is issued in two Strengths:  
SURGICAL 20%; MEDICAL AND OBSTETRICAL, 10%

*Full List and particulars supplied.*

DUNCAN, FLOCKHART & CO.  
EDINBURGH & LONDON (155 Farringdon Rd., E.C.1).





# CHEMICALS

FOR PHARMACY, TECHNOLOGY AND PHOTOGRAPHY

For immediate delivery

**ACID ACETYL SALICYLIC  
BARBITONE  
BROMIDES  
GUAIACOL CARBONATE  
HEXAMINE  
HYDROKINONE  
METHYL SULPHONAL  
PARAFORMALDEHYDE  
PHENACETIN  
PHENOLPHTHALEIN  
POTASS. PERMANGANATE  
SULPHONAL  
SODIUM BARBITONE**

## JOHNSON & SONS

*Manufacturing Chemists, Ltd.*

**23 CROSS STREET, FINSBURY, E.C.2.**

MANCHESTER OFFICE .. .. 12 QUEEN STREET, DEANSGATE





# Hubbuck's Pure Oxide of Zinc

is made by sublimation, and is  
warranted to contain upwards of  
**99.5 PER CENT.**

of pure oxide; in fact the  
impurities are not traceable.

**Thos. Hubbuck & Son, Ltd.**

ESTABLISHED 1765

**24 Lime Street, London, E.C.3.**

MANUFACTURERS OF WHITE LEAD, WHITE  
ZINC, PAINT, OILS, COLOURS, VARNISHES, &c.

Australian Office: 34 Queen St., Melbourne.

*Sold by the following Wholesale Druggists  
in Boxes of 7 lb. and 14 lb. stamped by  
the Manufacturers; also in 1-lb. Boxes and  
1-lb. Glass Bottles.*

Allen & Hanburys (Lim.)  
Ayrton, Saunders & Co.  
(Lim.)  
Baiss Bros. & Company  
Bell, Jno., & Co. (Lim.)  
Bleasdale (Lim.) (Lim.)  
Boots Pure Drug Co.  
British Drug Houses (Lim.)  
Burgoyne, Burbidges & Co.  
Butler & Crispe (Lim.)  
Clay, Dod & Co.  
Cockburn & Co. (Lim.)  
Corbyn, Stacey & Co.  
Dakin Brothers (Lim.)  
Duncan, Flockhart & Co.  
Evans, Gadd & Co.  
Evans Sons Lescher &  
Webb (Lim.)  
Ferris & Co.  
Gale & Co.  
Glasgow New Apothecaries  
Co.  
Goodall, Backhouse & Co.  
Harker, Stagg & Morgan  
(Lim.)  
Harkness, Beaumont & Co.  
Hatrik, W. & R., & Co.  
Hirst, Brooke & Hirst.

Hodgkinson, Prestons &  
King.  
Horner & Sons  
Huskisson, H. O., & Co.  
Inman's Stores (of Edin-  
boro')  
Lofthouse & Saltmer  
(Lim.)  
Oldfield, Pattinson & Co.  
Pinkerton, Gibson & Co.  
Potter & Clarke, Lim.  
Raines, Clark & Co.  
Raines & Co.  
Rankin & Borland  
Silversides, R. B. G.  
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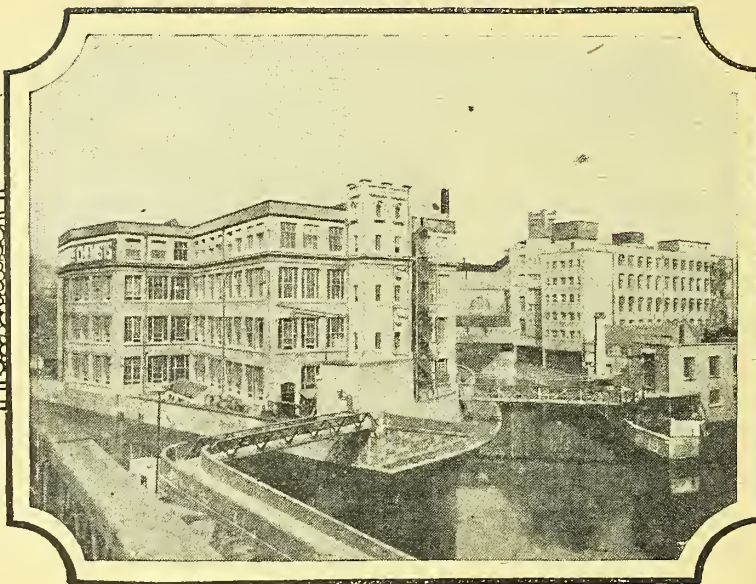
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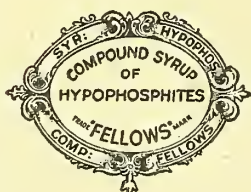
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August 2, 1924.

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Privy Council Order, Jan. 1, 1921.

**DANGEROUS DRUGS ACT, 1920.**

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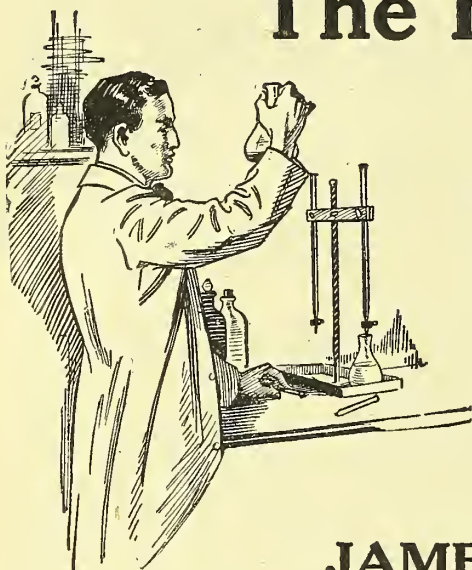
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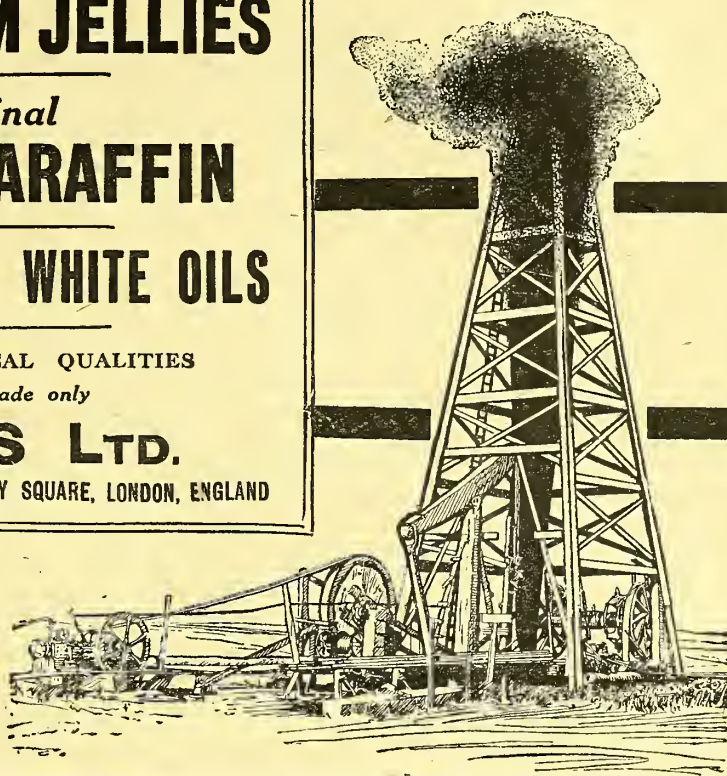


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# THE CHEMIST AND DRUGGIST

## SUPPLEMENT

42 CANNON ST.  
LONDON E.C. 4

AUGUST 2, 1924

*This Supplement is inserted in every copy of The Chemist & Druggist.*

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The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

**BRIGHTON.**—Chemist Business, main road, near sea; nominal rental; long lease; price £800, including over £500 stock. Reason & Tickle, 31, Queen's Road, Brighton.

**LANCASHIRE** industrial town; best position; main road; congested district; exceptional opportunity to acquire really sound Business, owner having purchased larger business; unopposed Light Retail Family Chemist's Business, with N.H.I. nearly 10,000 per annum; established by vendor over 13 years; large modern shop, well stocked, fitted in mahogany, plate glass, electric light; present returns average over £30 per week; good living accommodation, bath room, etc.; rent £50 per annum; lease granted; price about £1,500; if including vendor's own property £2,500. Apply 10/27, Office of this Paper.

**LIVERPOOL DISTRICT.**—General Retail in working-class district; good Prescribing; rent £46 16s.; let off £31 4s.; returns £17 weekly; price for quick sale, £550; sound reason for disposal. Moffat, 56 Hanover Street, Liverpool.

**LIVERPOOL.**—Old-established Business; main thoroughfare; lock-up shop; rent £110; average turnover last three years £1,650 under management; sound reason for disposal; price asked £1,000, or nearest offer. Apply "Ramilies," c/o Evans Sons Lescher & Webb, Ltd., 56 Hanover Street, Liverpool.

**LONDON, N.W.**—Good-class Dispensing and Family Business; bus and tram stop; electric light; long lease; returns £2,000 last year; well stocked; sound reason for sale; genuine concern; price, nearest offer £1,200. "T. H. W.," 11/18, Office of this Paper.

**NEAR CRYSTAL PALACE.**—Business for Sale; large Prescribing, with usual Retail, N.H.I., and Photography; full prices for everything; returns average about £1,100 per annum; room for considerable increase; near site of proposed new railway station; handsome fittings; well stocked; new lease at moderate rent. 10/35, Office of this Paper.

**SOUTH COAST HEALTH RESORT.**—Small Lock-up Pharmacy and Dispensary; recently established and doing well under unregistered; Prescribing the main feature; needs Chemist; mixed middle-class profitable family trade; steadily increasing, with no end scope; good saleable stock; 14 years' lease; electric (small flat near). Stamp. 2/13, Office of this Paper.

**SOUTH COAST.**—Cash Light Retail and Dispensing Business, situated on main road; shop nicely fitted and well stocked; Prescribing, N.H.I. and Photography; 5-room house; electric light throughout; rent £50 per annum, on lease; good reasons for disposing; price £600. 10/19, Office of this Paper.

**S. WALES.**—Unopposed, well-stocked General Retail, Dispensing and Photographic, with Wine Licence and Optical connection; returns average £2,000 per annum; double-fronted shop, well fitted; large house and warehouse; vendor's own property, to be sold with business; in fast-growing district. Offers and further information, Williams, 11 Shirley Road, Cardiff.

**S. WALES.**—Good-class Light Retail and Dispensing; Kodak Agency; turnover not under £2,000 under management; good profits; plenty of scope for further business; well-fitted shop; fully stocked; lock-up; good reason for disposal; price £1,450. Apply 10/20, Office of this Paper.

**SOUTH WALES.**—Chemist wishes to retire; two Shops; beautifully fitted and well stocked; own property; nice locality; golden opportunity for two young men wishing to enter into partnership; part money can remain; genuine buyers only entertained; references required; books kept. 8/37, Office of this Paper.

**SOUTH YORKSHIRE.**—In industrial centre, high-class Dispensing and Retail Business; trustees have run same for four years; manager now leaving, and they are open to realise; excellent percentage shown; sales average £220 monthly; goodwill and fixtures £1,000; stock at valuation; can give lease of premises; dwelling-house adjoining shop; principals only. Apply 5/40, Office of this Paper.

**BUSY Lancashire town.**—Drug Stores for Sale; main road; double-fronted shop; corner position; electric lights; beautifully fitted; good living accommodation, bath, hot and cold water; stock and fixtures at valuation. Apply, 65 Rochdale Road, Bury.

**CAPITAL** old-established Retail and Dispensing City Business; N.H.I.; well stocked and electric light; returns £30-£35 weekly, increasing; busy central position; rooms sub-let £49; price £700, or near cash offer entertained; sound reason for disposal. Apply first instance, "Chemist," 8 Priory Villas, Friern Barnet, N.11.

**CHEMIST'S** Business for immediate disposal; lock-up shop, with low rental, in thickly-populated industrial locality in prosperous Midland town; trade principally Drugs and Surgical; plenty of Prescribing and little N.H.I.; stock mostly new; all fresh and saleable; price cost of stock and fittings, less a reasonable discount, approximately £400-£450. 5/39, Office of this Paper.

**FOR** Sale, Surgical Business in large city, North of England, doing high-class business; principal thoroughfare; rent low; lease can be arranged; offers invited; continued ill-health of family reason for disposal. 49/588, Office of this Paper.

**OLD-ESTABLISHED** Dispensing and Family Business in agricultural district; one of England's beauty spots in Shropshire; stock £700; goodwill £400; lease can be arranged; book debts will be collected by seller; owner, after 70 years in business, retiring on account of age; a good opportunity for energetic man, especially if he has some knowledge of Veterinary work. Apply "D.," c/o Evans Sons Lescher & Webb, Ltd., 60 Bartholomew Close, E.C.1

## AGENCIES.

**NEW ZEALAND.**—The head of an established firm of Manufacturers' Representatives, with own travelling staff, handling Druggists' Sundries, Proprietary Articles, etc., is at present in England with the object of obtaining two or three additional Agencies for New Zealand; highest credentials; correspondence invited from houses of standing only. Apply P.C.B. 85/20, Office of this Paper.

**WEST RIDING AND SOUTH YORKSHIRE.**—Traveller, 42, wants change; valuable connection, Chemists, Herbalists, etc., Packed Lines. 5/16, Office of this Paper.

**AGENTS** wanted, able to influence orders, for Fancy Aluminium Boxes and Screwed Caps for Toilet Preparations. Apply, giving full particulars and terms, to 281/1, Office of this Paper.

**CONTINENTAL** Manufacturers of Soap Novelties and Figures require Agents who have sound connection with Wholesale and Merchants. P.C.B. 85/21, Office of this Paper.

**MANUFACTURER** of Surgical Dressings desires to get in touch with a Traveller having a connection among Wholesale Druggists and Chemists in Scotland, with a view to an Agency. Reply, giving full particulars and references, to Box 38, Ashburners, 10 Piccadilly, Manchester.

## FOR SALE.

**FOR** quick sale, Butcher Rotary Print Dryer, direct current, perfect condition, practically new, cost £25; Butcher Developing System, No. 1, set of three tanks, 18 racks, stand, unused, cost £20 10s. Offers to Hale, Chemist, Luton. Telephone 401.

**OVERSTOCK.**—Cameras in good condition. What offers? 3 x 2½ A., 3 x 2½ B., 3 x 2½ Ensign Box Cameras; 3 x 2½ B., 3 x 2½ B., and R.R. Lens; 1 x 2½ Folding Ensigns; 1 x No. 1 Ensignette. Apply 7/26, Office of this Paper.

**SUPERB** Nail Polish; Aluminium Boxes; 700 1 dozen; handsome cards; 5s. per dozen. Spa Toilet Company, Leamington Spa.



**TENDERS.**

**THE** Director-General, India Store Department, Branch No. 46,  
Belvedere Road, Lambeth, S.E.1, requires :—  
Plain Lint for Surgical Dressings.

Tenders due on the 21st August 1924.  
Tender Forms obtainable from above.

**BUSINESSES WANTED.**

6s. for 50 words or less; 6d. for every additional 10 words  
or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this  
Office, and forwarded on payment of an additional charge of 1/-.

**WANTED**, small Business in the Birmingham district, with  
living accommodation preferred. 7/18, Office of this  
Paper.

**WANTED**, on South Coast, Devonshire preferred, or St.  
Leonards, Worthing or Bournemouth district, good Dis-  
pensing Business; would go to £3,500, or smaller business would  
be considered; bankers' reference. Full particulars, in con-  
fidence, to "Chemist," 7/17, Office of this Paper.

**TO LET.**

**SHOP**, with dwelling-house over, in Northern mining and agri-  
cultural town, to Let on lease. Apply Pigg & Son, Auc-  
tioneers, Bishop Anckland.

**PREMISES FOR SALE.**

**UNIQUE OPENING.**—Lock-up Shop; new block, containing  
Post Office; S.E. district; heart of immense development;  
two L.C.C. estates in progress; unopposed; Doctor would share;  
net rent £75; premium £150, or sell building 98 years' lease;  
remainder let; £475 cash; balance mortgage. Simmonds, 7  
Lansdown Place, Blackheath.

**PARTNERSHIPS.**

**UNIQUE OPPORTUNITY.**—Agent, with large and profitable  
connection among Hairdressers in Lancs. and Yorks. (High  
Frequency, Permanent Waving, etc., Machines), wishes to meet  
ambitious Working Partner with small capital, view to extend-  
ing and opening in Hairdressers' and Chemists' Sundries; know-  
ledge of sundries trade, buying, etc., essential. Write first  
instance, Ryan & Co., Ltd., Chorley Old Road, Bolton.

**APPRENTICE.**

**APPRENTICE** (either sex) required in Family and Dispens-  
ing business (Brixton); Examination work also will be  
taught (by qualified Chemist, M.P.S.) to one willing to learn;  
one passed Preliminary preferred, but not essential; short hours  
arranged; moderate premium required. Apply (photo if possible)  
10/31, Office of this Paper.

*We desire particularly to draw the attention of Colonial and Foreign  
Subscribers to the fact that in cases where they require partners,  
agents or assistants, or wish to sell their businesses, an Advertisement  
in this Supplement, placed in every copy of "The Chemist and  
Druggist," should be the readiest means of helping them to attain  
their object. The tariff for such announcements is given under the  
appropriate headings in the Supplement. Instructions and remit-  
tances can be sent to us direct or through the advertisers' correspon-  
dents in this country.*

**SITUATIONS OPEN.**

[HOME.]

**RETAIL.**

6s. for 40 words or less; 6d. for every additional 10 words  
or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this  
Office, and forwarded on payment of an additional charge of 1/-.

**ABERDEEN ROYAL INFIRMARY.**

**DISPENSER** (qualified) wanted, to commence duty on  
1st October, 1924. Salary £200 per annum. Applications  
and testimonials (sixteen copies) to be lodged with the subscriber  
not later than Thursday, 7th August.

A. SCOTT FINNIE, Clerk and Treasurer.

343 Union Street, Aberdeen,  
15th July, 1924.

**BRISTOL.**—Qualified Locum required third week in August.  
Latty, Chemist, Bristol.

**BURNLEY DISTRICT.**—Qualified Branch Manager required;  
must be young, energetic, and good Window-dresser.  
Apply, stating age, height, experience, and salary required, to  
Hartleys, Cash Chemists, Railway Street, Nelson, Lancs.

**CARDIFF.**—Wanted, competent and reliable Assistant for a  
quick Cash Business; good Salesman, Dispenser and Window-  
dresser; permanency if suitable. Give full particulars of experi-  
ence, age, height and salary required (outdoors) to G. Thomson  
Williams, 126 Cowbridge Road, Canton, Cardiff.

**CITY.**—Young qualified Assistant required; permanency.  
Apply personally to D. C. Jones, M.P.S., 21 Aldgate, City.

**CLAPHAM JUNCTION.**—Qualified gentleman wanted. Please  
state experience and all usual particulars, including salary  
required, to H. E. Matthews, Ltd., Chemists, Mornington  
Crescent, N.W.1. (No callers.)

**DORKING.**—Wanted, Locum for the Dispensing Counter, Sep-  
tember 1 to 27 inclusive; must be qualified and well up in  
dispensing. State terms (outdoors), and say what experience in  
good-class dispensing. F. Strawson, 12 Rose Hill, Dorking.

**HUDDERSFIELD.**—Wanted, Junior qualified Assistant early  
in August; temporary or permanent. State age, salary  
required, and give reference to last situation to R. C. Walshaw,  
4 Market Place, Huddersfield.

**KILBURN, N.W.**—Wanted, a lady or gentleman, qualified, for  
relief work, Thursday evenings and alternate Sunday  
evenings. 10/100, Office of this Paper.

**LONDON.**—Evenings and some afternoons, Assistant, male,  
wanted; must have good references and capable of taking  
charge; might suit student. Dunn, 218 Kentish Town Road,  
N.W.

**LONDON.**—Qualified Relief Manager, also qualified Assistant,  
for comfortable permanency. State age, experience, and  
salary required to 50/525, Office of this Paper.

**LONDON, N.W.**—Unqualified gentleman, Junior, 22-25,  
required, September 1, for Dispensing business; must be  
quick and accurate Dispenser and have Photographic knowledge;  
good references essential; live in. Salary and experience to 10/5,  
Office of this Paper.

**LONDON, S.E.**—Wanted, qualified lady Pharmacist; quick  
trade; N.H.I. Apply, with fullest details, salary, refer-  
ences, experience, to 10/10, Office of this Paper.

**LONDON, S.W.**—Smart Assistant wanted immediately; good  
Dispenser and Counterman, with knowledge of Photo-  
graphy. Apply, giving full particulars and salary required, to  
Bray & Co., 30 Broad Street, Teddington.

**LONDON, W.1.**—Wanted soon, a capable and experienced male  
Assistant (outdoors) for high-class West-End Dispensing  
business; qualification not essential; duties divided between  
three; reasonable hours. Full particulars in first letter to Mr.  
Rees, Potts & Rees, 62 South Audley Street, Grosvenor Square.



**PHOTOGRAPHS, TESTIMONIALS, &c.**

When answering advertisements in this section applicants are strongly advised not to send (unless specially requested) **ORIGINAL TESTIMONIALS** or **VALUABLE PHOTOGRAPHS**. As can be readily understood, when an advertiser receives from 60 to 100 replies the task of returning photographs, testimonials, &c., is one of some difficulty.

**MANCHESTER DISTRICT.**—Wanted, immediately, qualified Pharmacist, lady or gentleman, for Insurance Dispensing in working-class business, morning and evening. Apply, stating age, experience, and salary required, or call, 218 Hyde Road, West Gorton, Manchester.

**MANCHESTER DISTRICT.**—Elderly, active, qualified Assistant; accurate Dispenser and good Stock-keeper; no photography, Sunday or holiday duties; permanency; outdoor. State age, height, salary, if married, photo if possible, and send references to 10/25, Office of this Paper.

**NORTH STAFFS.**—Young qualified as Manager; prospects; must be well recommended and have initiative. 11/20, Office of this Paper.

**OLDHAM DISTRICT.**—Wanted, immediately, qualified Branch Manager; age 26-36; N.H.I. and busy Counter trade; must be a good Window-dresser. State age, qualifications and salary required, enclose references and photo, which will be returned. Apply 9/6, Office of this Paper.

**ROYAL HOSPITAL, CHESTERFIELD.**—Locum Pharmacist required, with Hospital experience preferred, to take charge during holidays; either now or later dates. Apply, with terms, references, etc., to H. Barton, M.P.S.

**S.E. LONDON Suburb.**—Qualified Manager for single-handed branch in good neighbourhood; salary and progressive commission; must be able to talk Photography; also first-class Porter for West End; good wages. Apply 10/30, Office of this Paper.

**YORKSHIRE.**—Manager, qualified, wanted for branch; age about 30; one accustomed to Photo. trade. Apply, with two recent testimonials, stating age, salary required, and photo, and when disengaged, 11/7, Office of this Paper.

**ASSISTANT (male),** unqualified, required with Dispensing experience. Full particulars and salary (outdoors) to Barker Hill, 94 Linden Road, Gloucester.

**ASSISTANT** wanted at once until the first week in October; must be reliable Dispenser and good Salesman. Please state usual particulars, salary (indoors, not at business premises). Bright, Chemist, Sea View, Isle of Wight.

**ASSISTANT** required; trustworthy; working-class district; good Counterman, Window-dresser, Insurance Dispensing, Photography. Write, stating age, experience and wage required, with copies of references of two last engagements and how long held, 10/8, Office of this Paper.

**DISPENSER** required; Monday, Tuesday, Thursday, Friday, 6 p.m. till 8 p.m., Saturdays 9 p.m.; must be experienced. Write Manager, c/o Vincent & Co., 94 High Street, Clapham, S.W.4.

**JUNIOR**, chiefly for Dispensing, must be quick, neat, and accurate, required end of August. Full particulars and photo to Wood, Chemist, Stafford.

**JUNIOR Assistant** required, with good knowledge of Counter work and Dispensing. State full particulars and when at liberty to "H.," 9/90, Office of this Paper.

**JUNIOR Assistant**, about 20, required for brisk business with plenty of Dispensing and Photographic; good experience and prospects for capable young man; one having recently completed apprenticeship preferred; 50s. weekly (outdoors). Apply personally or by letter, stating age, height, references and when at liberty, Barkers, 105 Church Street, Croydon.

**LADY Assistant** required for two weeks from about August 13; must be quick and accurate Dispenser (N.H.I.), with Counter experience; not necessarily qualified; state full particulars. Millhouse & Lincoln, Northfleet, Kent.

**LADY Assistant; Minor or Hall qualification.** State experience, salary required and age to Arnold & Sons, Chemists, Southsea.

**LADY**, with Minor qualification, for permanent post (non-resident) in London; Counter and Dispensing. State when disengaged, details of experience, salary required, copies of testimonials. 10/36, Office of this Paper.

**LADY Pharmacist** required to manage small Dispensing and Photographic business, Kent Coast. Reply, giving full particulars of experience, and state salary required, to 10/32, Office of this Paper.

**LOCUM**, reliable, August 12-September 9; must be experienced in Photography, especially developing. Apply, giving age, experience, and terms, to Vincent & Co., 13 King Edward Parade, Norbury, S.W.

**LOCUM (M.P.S., lady)** required, September 27-October 29; resident; board and laundry allowed; inclusive fee for period £10 10s. Apply Secretary, Gravesend Hospital.

**LOCUM** required from August 18 to September 6 inclusive; state salary required (outdoor), also send two references. Junior also required (permanent) for middle-class business, occasional Dispensing Counter, etc., for September 15 (outdoor); state salary required and send references. 8/39, Office of this Paper.

**LOCUM.**—Male Pharmacist required for three weeks in August; £5 per week to competent and reliable man; copies of testimonials and full particulars in first letter. No reply to applications in three days respectfully declined. Apply Pharmacist, General Dispensary, Lincoln.

**LOCUM**, qualified, wanted from August 30 (or September 1) to September 13. Particulars, references and terms to J. W. Bland, Chemist, 318 Moseley Road, Birmingham.

**LOCUM**, unqualified, live in preferred, September 1-13. Full particulars, experience, age, references and salary, to W. N. Ashworth, Chemist, Weybridge.

**LOCUM**, qualified, August 18 to 30; Thursdays 1 o'clock; no Sundays. Particulars, Armstrong, 165 Blackstock Road, Finsbury Park.

**LOCUM** required from August 16 to 30. Please state usual particulars. Stiles, Market Harborough.

**LOCUM**, qualified, August 16 to 23 inclusive; one able to travel home preferred. Particulars, etc., to Nelson Brierley, Chemist, Greenfield, nr. Oldham.

**LOCUM; Young Lady** required, August 11 to 23 inclusive; Light Retail and Dispensing. Full particulars of experience, salary and references to J. E. Booth, Chemist, North Farnborough, Hants.

**LOCUM**, lady or gentleman, qualified, from August 16 to September 6. Full particulars and references to 10/34, Office of this Paper.

**LOCUM; September 8 to 20; Sheffield.** Please give full particulars in first letter, 10/38, Office of this Paper.

**MANAGER**, qualified, working-class district, S.E. London; salary and commission in returns; business been neglected and capable of increase; give full particulars in first letter, age, salary, experience, etc.; required by August 25. Apply 7/20, Office of this Paper.

**MANAGER** for small branch at Ingleton, Yorks, required immediately; suit young lady or gentleman recently qualified; moderate salary; liberal commission. References and photo to Pumphrey, Chemist, Bentham, near Lancaster.

**MANAGER** required; qualified; good opportunities for a man with first-class experience. Apply by letter, stating full particulars, to 50/523, Office of this Paper.

**QUALIFIED Manager** required for Light Retail and Dispensing (N.H.I.) business situated in a progressive town in West Riding; small house available. Give full particulars in first letter to "R.," 9/9, Office of this Paper.

**QUALIFIED Assistant** at once for good-class business; Dispensing, Counter, Photography, Window-dressing; age about 23; good-class East Anglian town. Apply, with full particulars, salary, etc., 11/14, Office of this Paper.



**QUALIFIED**; young, gentlemanly Assistant required for West-End Dispensing and Counter Business; must be energetic, capable and have similar type of experience; immediate and permanent position to suitable man. Full particulars in first letter, salary required, to 50/526, Office of this Paper.

**RELIABLE** qualified Locum required for fortnight commencing August 11. Reply, giving qualifications, references, etc., to Robson, Derby Road, Nottingham.

**SURGICAL** Instrument business in the provinces, Assistant. Address, stating age, duties accustomed to, and wages expected; reliable references as to character indispensable. Reply 50/502, Office of this Paper.

**VINCENT & COLE**, Chemists, Norbury, require a Locum, qualified, for four weeks, from August 12; must be well recommended.

**WANTED**, August 18, qualified Manager; abstainer; permanency. Apply, with full particulars, wages (outdoors), to Giles & Sons, Chemists, Newport, Mon.

**WANTED**, unqualified Junior (male or female) for four weeks from August 5; work light; time for study. Write or call, Whineray, Pharmacist, Church Road, Leyton, E.10.

**WANTED**, for the autumn, qualified Assistant, lady or gentleman, to take charge country business; easy and comfortable position; state salary required and experience. Apply "Epsoms," c/o Lofthouse & Saltmer, Ltd., Hull.

**WANTED** immediately, Young Man as Junior; unqualified, with experience of high-class Dispensing and Retail; must be quick and accurate worker. Apply, stating age, height and salary required (outdoor), to Jenkins, Pharmacist, 190 Broadhurst Gardens, N.W.6.

**WANTED**, at once, Junior Assistant; Retail and Dispensing; Cumberland. Apply, giving terms and experience, 10/2, Office of this Paper.

**WANTED**, Young, Unqualified Assistant, male, for one month, commencing August 25; outdoors; no night or Sunday duty. Particulars as to salary, experience, etc., to Francis & Groves, 129 High Street, Guildford. Applications not answered in three days respectfully declined.

**WANTED**, Locum for one month, from August 8; unqualified or qualified; suit lady with knowledge of Photography. Bishop, Chemist, Thames Ditton.

**YOUNG**, capable Assistant required, with good experience. Apply by letter, stating full particulars, to 50/524, Office of this Paper.

### WHOLESALE.

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

**BIRMINGHAM**.—Representative required for Midland area with Birmingham as centre; one with previous experience in highest grade Perfumery preferred; no objection to gentleman already handling another high-grade but non-competitive line. Apply in first instance "R. D. L.," 15 Victoria Street, S.W.1.

**A** LIVE Representative, with good connection in London (north of Thames), required to introduce Toilet Soap products of progressive non-combine house; 10% commission offered to the right man. Please send full details, in confidence, to R. F. White & Co., Ltd., 34 Victoria Street, S.W.1.

**MANAGER**.—A vacancy will shortly occur in an old-established firm of Manufacturing Pharmacists for a General Manager; age 35 to 40; qualified; applicants must have held similar position, and be thoroughly experienced in up-to-date methods of manufacturing, organising and control of staff, correspondence and propaganda; some knowledge of Export trade desirable. This is an exceptional opportunity for a gentleman with energy and initiative desirous of securing a permanent and improving position. Reply, giving full particulars, which will be treated as confidential, to 50/522, Office of this Paper.

**NUMBERS** of Chemists handled our "Origro" Seeds to advantage this season. We wish to increase our Agents. Our terms are generous. We should be glad to hear from Travellers willing to introduce our Seeds on a commission basis. Letters only. L. A. Mays, Seedsman, Sturry, Canterbury, Kent.

### LONDON.

**A**N opportunity that is only very occasionally advertised,—but don't apply if the following essentials for the position raise any "doubts" or even "hopes," for it is absolute confidence and knowledge that you can offer more than is asked for that is wanted for this position:—

1. Smart appearance and address.
2. A tactful manner, firm, yet courteous, which is always quite fair and reasonable from both customers' and firms' view points.
3. A personal connection amongst all the London Chemists and Stores.
4. A successful sales record.
5. The ability to successfully introduce and sell a long range of goods, which comprise Pharmaceutical Preparations, bulk and packed, Pastilles, Tablets, Toilet Preparations and Perfumery.
6. One who realises that sales must be made in all departments and who is used to working on modern lines, checking his own progress, and keeping his house well posted regarding competition and competitors' activities.
7. One who has ideas and puts them to practical use.
8. A 100% man who only wants the opportunity to demonstrate his ability in order to satisfy 90% of his ambition. (Such a one would never get 100%.)

These represent the minimum, we leave you to think it over. If a very confident YES, write us, giving all particulars. We shall treat it in strict confidence. Apply 50/521, Office of this Paper.

**SALESMAN** and Propagandist required by Manufacturers of well-known nationally advertised Proprietary; territory, Midland Counties; must be keen, energetic worker, with established connection if possible; salary and expenses. Replies, giving full particulars of past experience, in confidence, to 50/520, Office of this Paper.

### SALESMAN

**REQUIRED** by well-known Packers of Pharmaceutical Specialities to take over good connection in the West Midlands and N. Wales; must have previous experience in the trade; excellent references required, including last or present employment. Apply 50/501 Office of this Paper.

**TRAVELLER** required for high-class, distinctive Toilet Preparations, Belgian manufacture; London and Southern Counties; liberal commission. Write, stating particulars, to A. J. B., 97 Sackville Road, Hove, Sussex.

### [COLONIAL, INDIAN AND FOREIGN.]

**BRITISH COLONY**.—Young qualified Chemist (about 23) wanted for healthy tropical British Colony; total abstainer; good Salesman; salary £35 monthly; annual increase; passage paid; splendid prospects. 12/34, Office of this Paper.

### SITUATIONS WANTED.

#### RETAIL.

#### [HOME.]

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

**A** CAPABLE, qualified Pharmacist, many years' experience high-class Dispensing and Retail, late own proprietor, as Senior; capable entire control; live on premises preferred; married. "Optics," 11/2, Office of this Paper.

**A** MANAGER or Senior Assistant; Major man; 28; London experience; good all-round knowledge; free from August 4. Findlay, 43 Langdon Park Road, Highgate, N.6.

**A** QUALIFIED Chemist, exceptional experience, as Dispenser, Book-keeper or Secretary to firm high-class Doctors; married; live in preferred. 11/200, Office of this Paper.



### NAMES AND ADDRESSES.

When sending advertisements for any of the sections in this Supplement, advertisers—as a guarantee of good faith and not necessarily for publication—should always give their names and addresses. It sometimes occurs that this rule is not followed and delay and disappointment ensues. Strict attention to this detail will be appreciated.

**ADVERTISER** desires situation, end September, Junior or Improver; good Dispensing, Counter and Photographic experience; S.W. preferred. Apply 8/28, Office of this Paper.

**ALDRSHOT OR DISTRICT**.—Young lady; good experience, Counter, Dispensing, Stock. 8/30, Office of this Paper.

**APPRENTICE**.—Boy just left school; good-class Pharmacy; S.W. district preferred. Apply "W. J. B.," 132 Emmanuel Road, S.W.12.

**ASSISTANT**, middle-aged, unqualified, seeks post; small country town preferred; good references; all-round knowledge, Dispensing, N.H.I., etc.; not afraid of hard work; highly recommended by present employer; slight knowledge of Photography. Apply A. Everson, c/o Mr. Turton Green, 1 Market Place, Henley-on-Thames.

**ASSISTANT** seeks situation in South England; 8 years' all-round experience, including 3 years high-class Dispensing; tall, and good Window-dresser. Reding, Preston, near Canterbury, Kent.

**ASSISTANT** or Locum; 34; height, 5 ft. 7½ in.; good all-round experience Retail, Dispensing and Photographic; first-class Counterman and Window-dresser. "Zox," 10/14, Office of this Paper.

**ASSISTANT**, unqualified; middle-aged; Dispenser, Conterman, Agricultural. "L. M. W.," 4 King's Avenue, Chichester.

**CHANGE**.—Competent, energetic, large, varied experience, all class business; married; long references. "Chemicus," 162 Lloyd Street, Greenheys, Manchester.

**DISPENSER**, Book-keeper, Surgery Attendant; male; whole or part-time. "Dispenser," 114 Bow Road, Bow, E.3.

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